

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

JUL 27 1939

Received at London Office.....

Date of writing Report... 22-7-1939 When handed in at Local Office.....19... Port of RotterdamNo. in Survey held at Alblasserdam Date, First Survey 19-6-39 Last Survey 18-7-1939
Reg. Book. (Number of Visits... 5...)on the m.s. "MILDRED" Tons { Gross 552.39
Net 245.60Built at Alblasserdam By whom built Werk "De Noord" Yard No. 577 When built 1939Owners N.V. Tankkustvaart Port belonging to RotterdamElectrical Installation fitted by Electrotechn. Bureau A. de Hoop Contract No. When fitted 1939Is vessel fitted for carrying Petroleum in bulk yes Is vessel equipped with D.F. yes E.S.D. no Gy.C. no Sub.Sig. noHave plans been submitted and approved yes System of Distribution two conductor insulated Voltage of supply for Lighting 110Heating ✓ Power 110 Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state frequency ✓ Prime Movers,has the governing been tested and found efficient when the whole 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 main & auxiliary generator main engine driven generator has an automatic voltage regulatorare shunt field regulators provided yes Is the compound winding connected to the negative or positive polepositive pole Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing ✓ Have certificates oftest for machines under 100 kw. been supplied yes and the results found as per rule yes Are the lubricating arrangements and the constructionof the generators as per rule yes Position of Generators in engine room { main generator on port sideauxiliary generator on starboard side main engine driven generator on starboard side aftis 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 in engine room on starboard sideare 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 all current carrying parts are mounted on mica insulated metal bars, on Sindanyo slabs,or on porcelain insulators, if of synthetic insulating material is it an Approved Type yes, 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 yes, 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.main generator { each a double pole contactor with overload & reversed current trips, electrically interlockedaux. generator { with a single pole contactor for the equalizer connection.main engine driven generator: a triple pole change over switch, three fuses & a single pole cut in & cut out contactorbattery: a 5 pole change over switch, two charge regulating resistances & 4 fuses.and for each outgoing circuit a double pole switch & double pole fuses.Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 5ammeters 3 voltmeters ✓ synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to theequaliser connection yes Earth Testing, state means provided one pair of earth fault indicating 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, are the reversed current protection devices connected on the pole opposite to the equaliser connection yes, have they been tested under working conditions yes. 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 yes, state maximum fall of pressure between bus bars and any point under maximum load 4 volts, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends yes with insulating compound yes 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 yes, if so, are they adequately protected yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered yes or run in conduit yes. State how the cables are supported and protected in machinery spaces, accommodation, etc. the cables are clipped to metal trays or direct to steelwork or woodwork of vessel - cables running over deck to foreship and cables to lighting fittings in pumprooms are run in conduit. Are all lead sheaths, armouring 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 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 by battery in special compartment on deck and method of control charge & discharge change over switch & regulating resistances are mounted on main board. 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. 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 fittings in pumprooms are of explosion proof type, with wiring in gastight conduit and where are the controlling switches fitted pumproom aft: in wheelhouse pumproom forward: in fore-castle, are all fittings suitably ventilated yes, are all fittings and accessories constructed and installed as per Rule yes. Searchlight Lamps, No. of one, whether fixed or portable fixed, 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 yes. 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 yes and vertically 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 services been supplied and the results found as per Rule yes. 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. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type not supplied. 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 megger 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	35	110	318	750	Oil engine	Diesel oil	above 160°F.
Auxiliary ...	1	15	110	137	750	"	"	"
Main engine-driven	1	5	110	45.5	1800	"	"	"
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 of No. and Size of Strands. Sq. in. or sq. mm.	In the Circuit.	Rala.			
MAIN GENERATOR ...	35	2	240	318	350	140	rubber	lead-sheath & steel wire braiding.
" " EQUALISER ...		1	120		175	70	"	"
Auxiliary generator	15	1	95	136	160	30	"	"
Main engine driven generator	5	1	16	45.5	49	55	"	"
Battery		1	4	15	22.5	4.230	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR ...								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...								
Power distr. b'rd forward	2	95	280	300	290			
Navigation board	1	2.5	4	15.5	125			

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...	1	4	18	22.5	125			
NAVIGATION LIGHTS (5 circuits) ...	1	1.5	8	9.5	300-45			
LIGHTING AND HEATING ...								
Lighting distr. b'rd in accommodation (loose in)	1	2.5	12	15.5	30			
Engine room lighting (2 circuits)	1	1.5	2	9.5	90			
Searchlight	1	1.5	1	9.5	30			
Cargo lights								

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Ballast pump	1	7	1	25	54	63	30	"
Bilge pump forward	1	7	1	25	54	63	60	"
Cargo pump forward	1	30	2	140	230	250	66	"
Boiler ventilator centr. heat syst.	1	25	1	1.5	2	9.5	15	"
Windlass	1	16	1	70	130	150	75	"
Capstan	1	9	1	35	72	85	100	"

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.

W. M. Elektro-Technisch Bureau
W. M. Elektro-Technisch Bureau

Electrical Engineers.

Date *24-VII-29*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *21 feet (converter of wireless station)*

Minimum distance between electric generators or motors and steering compass *18 feet ()*

The nearest cables to the compasses are as follows:—

A cable carrying *1* Ampères *1* feet from standard compass *1* feet from steering compass. *compass lighting*

A cable carrying *1.5* Ampères *5* feet from standard compass *5* feet from steering compass. *search light*

A cable carrying *1* Ampères *5* feet from standard compass *5* feet from steering compass. *poopligh*

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

per proc. *WERF DE NOORD*

Builder's Signature.

Date

J. H. A. ...
Obogelung

Is this installation a duplicate of a previous case *no* If so, state name of vessel *✓*

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 fitted on board under special survey, tested under full working conditions and found satisfactory. The material and workmanship are good and the installation merits in my opinion the Committee's approval.

Retd.
R. L. J.
31/7/29

Total Capacity of Generators *55* Kilowatts.

The amount of Fee ... *£ 336.00* : When applied for, *16.7.1939*

Travelling Expenses (if any) *£ 12.00* : When received, *3.8.1939*

H. van der Wijk
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 4 AUG 1939*

Assigned *See Rot. J.E. 28422*