

Rpt. 13.

No. 2866d

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report... 15-11-1939 When handed in at Local Office.....19..... Port of... Rotterdam

No. in Survey held at... Schiedam Date, First Survey... 8-9-39 Last Survey... 8-11-1939
Reg. Book. (Number of Visits... 19)

on the... s.s. "SARONA" Tons { Gross... 6671.26
Net... 3801.31

Built at... Schiedam By whom built... Wilton-Flyenaard Yard No... 668 When built... 1939

Owners... Neder. Indische Tankstoomboot Maatschappij Port belonging to... 'sGravenhage

Electrical Installation fitted by... N.V. Rijk. Electriciteits Nij. H. Croon & Co Contract No..... When fitted... 1939

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

Have plans been submitted and approved... yes System of Distribution... two conductor insulated Voltage of supply for Lighting... 110

Heating... ✓ 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 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

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... yes and the results found as per rule... yes Are the lubricating arrangements and the construction

of the generators as per rule... yes Position of Generators... in engine room, starboard side

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, starboard side

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... Sindango, 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... yes 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... 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... steam driven generator

a double pole change over switch & double pole fuses — diesel driven generator

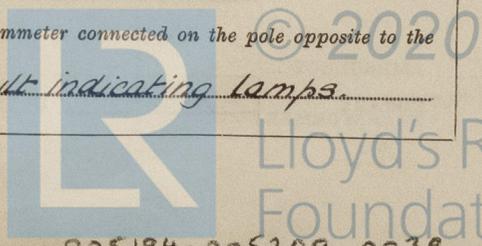
a double pole switch & double pole fuses

and for each outgoing circuit... a double pole change over switch & double pole fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... yes Instruments on main switchboard... 2

ammeters... 2 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... two pairs 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...*5 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...*Cables in machinery space, Crews quarters, accommodation, etc. and cables on the bridge are clipped to metal trays or direct to steelwork or woodwork of vessel; cables running aft to forward and lighting cables in centre castle space & stores and on weatherdecks are drawn in gastight 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...*hard wood or lead*... Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule...*yes*... Emergency Supply, state position...*yes*... and method of control...*yes*... 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...*pumprooms are lighted by fittings mounted in gastight steel boxes in the pumproom entrances. - spaces adjacent to the oil holds are lighted by gastight Wigan fittings.* and where are the controlling switches fitted...*in Chartroom and officers' accommodation*... are all fittings suitably ventilated...*yes*... are all fittings and accessories constructed and installed as per Rule...*yes*... Searchlight Lamps, No. of...*1*... whether fixed or portable...*1*... 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...*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 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	1	18	110	164	400	steam engine	✓	
	1	18	110	164	400	oil engine	diesel oil above 150°F.	
EMERGENCY ...								
ROTARY TRANSFORMER	1	1.5	28/32	53.5/47	3000	electromotor		

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel For Pole.	Sectional Area or Cross-sectional Area of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	18	1	120	164	175	40	rubber	Lead sheath & steel wire braiding.
" " EQUALISER ...								
Auxiliary generator	18	1	120	164	175	50	"	"
Shore connection		1	120		175	130	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...		1	6	22	29	8	"	"
" " GENERATOR ...	1.5	1	16	47	49	2	"	"

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...								
Engine room lighting Section board	1	16	25	49	80	"	"	"
Tower distribution board	1	50	50	99	180	"	"	"
Portable connections Section board	1	10	12	38	135	"	"	"
Navigation board	1	10	6	38	660	"	"	"
Aft lighting Section board	1	10	15	38	120	"	"	"
Midship lighting Section board	1	35	35	78	600	"	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...								
NAVIGATION LIGHTS (masthead, side, poop lights)	1	15	4	9.5	700	"	"	"
LIGHTING AND HEATING ...								
Forward lighting distr. boards (2)	1	10	10	38	770	"	"	"
Engine room lighting distr. boards (4)	1	2.5	8	15.5	100-100	"	"	"
Aft lighting distr. boards (4)	1	2.5	4	15.5	30-60	"	"	"
Midship lighting distr. boards (4)	1	2.5	5	15.5	8-10	"	"	"
" " " " (1)	1	10	15	38	60	"	"	"
Portable connections distr. boards								

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
fan midship accommodation	1	3.25	1	16	24.8	49	630	"
fan aft accommodation	1	3.25	1	6	24.8	29	190	"

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.

p.p. N.V. Rotterdamsche Electriciteits Mij.
 V.H. H. CROON & CO.

Electrical Engineers. Date 15-11-39

COMPASSES.

Minimum distance between electric generators or motors and standard compass 36 ft. (ventilator for midship accommodation)
18 ft. (emergency battery of wireless station)
30 ft. (converter of wireless station)
 Minimum distance between electric generators or motors and steering compass 32 ft. (ventilator for midship accommodation)
28 ft. (converter of wireless station)

The nearest cables to the compasses are as follows:—

A cable carrying 0.15 Ampères 1.5 feet from standard compass 1.5 feet from steering compass. (compass lights)
 A cable carrying 1.5 Ampères 0 feet from standard compass 4 feet from steering compass. (ship's telegraph)
 A cable carrying 0.4 Ampères 5 feet from standard compass 4 feet from steering compass. (red signal light)

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.

N.V. WILTON's Machinefabriek en Scheepswerf (Wilton's Engineering and Slipway Co.) Builder's Signature. Date 16th Nov 1939

M. Milton

Is this installation a duplicate of a previous case yes If so, state name of vessel S.S. "SAIDJA"

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 load conditions and found satisfactory. The material and workmanship are good and the installation merits in my opinion the Committee's approval.

*Noted
 23/11/39*

Total Capacity of Generators 36 Kilowatts.

The amount of Fee ... £ 208.00 : When applied for, 16.11.39

Travelling Expenses (if any) £ 7.00 : When received, 20/12/39 *R.S.Y.*

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

TUE. 28 NOV 1939

Committee's Minute

Assigned See Ref. J.C. 2866

2m.10.38.—Transfer. (MADE IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)

