

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

27 MAR 1951

Received at London Office

Date of writing Report 16<sup>th</sup> March 1951 When handed in at Local Office 24-3-1951 Port of ANTWERPNo. in Survey held at ANTWERP Date, First Survey 26-10-50 Last Survey 14-12-1950  
Reg. Book. (No. of Visits 16)on the m/v "KAMINA" ex "ROYAL HAROLD", Tons { Gross 442.4  
Net 287.4  
Lumber  
Built at Hoboken By whom built J. M. Co. K. Y. Yard No. 682 When built 1940

Owners Belgian Navy Port belonging to -

Installation fitted by Campbell &amp; Fetherwood When fitted 1942/44

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

Plans, have they been submitted and approved - System of Distribution two wire Voltage of Lighting 220

Heating 220 Power 220 D.C. or A.C., Lighting D.C. &amp; A.C. Power D.C. If A.C. state frequency 50

Prime Movers, has the governing been found as per Rule when full load is thrown on and off - Are turbine emergency governors fitted with a trip switch - Generators, are they compound wound - and level compounded under working conditions -

if not compound wound state distance between generators - and from switchboard - Are the generators arranged to run in parallel - are shunt field regulators provided - 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 -

Position of Generators Two in main E.R. and three in AUX. E.R. in fore and aft position

is the ventilation in way of generators satisfactory - are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil - Switchboards, where are main switchboards placed One aft of H.E.R.

and one aft of AUX. E.R. both in the aftship position

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil - what insulation is used for the panels PIERRITE

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 construction as per Rule, including locking of screws and nuts - Description of Main Switchgear

for each generator and arrangement of equaliser switches Two pole Siemens circuit breakers with linked equaliser switch

and the switch and fuse gear (or circuit breakers) for each outgoing circuit double pole circuit breakers

on double pole switches with fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule - Instruments on main switchboards 25

ammeters 12 voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided

6 Ohm meter

Switches, Circuit Breakers and Fuses, are they as per Rule - are the fuses an Approved Type Siemens

make of fuses Siemens Patent type, are all fuses labelled - If circuit breakers are provided for the generators, at what

overload do they operate 50% - 10 sec., and at what current do the reversed current protective devices operate 10% full load

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule -

Cables, are they insulated and protected as per Rule - 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 6 1/2% are the ends of all cables having a sectional

area of 0.01 square inch and above provided with soldering sockets - Are all paper insulated and varnished cambric insulated

cables sealed at the ends - 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 any 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 -

or of the "HR" type - State how the cables are supported or protected Clipped to perforated steel

trays &amp; to bulkheads

Are all lead sheaths, armouring and conduits effectually bonded and earthed - 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 - Refrigerated chambers, are the cables and fittings as per Rule -

Lloyd's Register  
Foundation

014925-014934-0092 1/3



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule 2 Emergency Supply, state position

Navigation Lamps, are they separately wired Y controlled by separate double pole switches and fuses. Y Are the switches and fuses in a position accessible only to the officers on watch. Y, is an automatic indicator fitted Y. Is an alternative supply provided Y.

Secondary Batteries, are they constructed and fitted as per Rule 2, are they adequately ventilated 2  
state battery capacity in ampere hours. 20 amp. 14. 24 volt.

*Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof.* 2

Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. 2

if so, how are they protected. Flame proof coated with separate layer

and where are the controlling switches fitted outside dangerous compartment Are all fittings suitably ventilated 2

Searchlight Lamps, No. of                     , whether fixed or portable                     , are they of the carbon arc or of the filament type                     

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.....2..... Motors, are all motors constructed and installed as per Rule and placed in well-ventilated

compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil. 2

Are motors coupled to oil fuel transfer and 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 sea 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

....., are all fuses of an Approved Cartridge Type....., make of fuse..... Are the fittings for numn

rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships. Are the cables lead covered as per Rule

E.S.D., if fitted state maker ALLAS location of transmitter compartments and receiver compartments

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations

**Insulation Tests.** has the insulation resistance of all circuits and apparatus been tested and found satisfactory *3*

## PARTICULARS OF GENERATING PLANT

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	5	A. C. E. C.	120	230	521	400	Wieland	J. M. Cook (2) P. Smith
EMERGENCY ...	2	Comp	50 KVA.	220 DC / 220 AC	217			

## GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Section Area $\frac{No. \text{ and } Dia. \text{ of Strands.}}{Sq. ins. \text{ or } sq. mm.}$	In the Circuit.	Rule.			
MAIN GENERATOR } ... ..	120	2	150	521		V.L.R.	L.C.P.	
” ” EQUALISER ... ..		7	150			”	” ”	
.....								
.....								
.....								
EMERGENCY GENERATOR ... ..								
ROTARY TRANSFORMER: MOTOR	41	7	120	190		V.L.R.	L.C.P.	
” ” GENERATOR...	50 KVA.	7	70	212A		”	” ”	

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.). FROM MAIN SWITCH

DESCRIPTION.

To Boatwrenches D.F.B. N <sup>o</sup> 2	1	95	200	V.I.R	L.C. P.
To workslaps D.F.B. N <sup>o</sup> 2	1	16	100	"	" "
To windlass	1	70	168	"	" "
To Lighting S.B. N <sup>o</sup> 2 (built in M.S.B.)	1	70	165	"	L.C.
To Power D.F.B. N <sup>o</sup> 2	1	240	600	"	L.C. P.
To Power S.B. N <sup>o</sup> 4 (built in M.S.B.)	1	240	1090	"	L.C.
To P S.B. N <sup>o</sup> 6	1	95	200	"	L.C. P.
To Power D.F.B. S.	1	10	65	"	" "
To Power S.B. 10.	1	185	320	"	" "
To Steering gear	1	16	75	"	" "
To Galley, S.B. N <sup>o</sup> 2	1	70	200	"	" "
To Bilge & Fire pump D.F.B. (built in M.S.B.)	1	120	260	"	L.C.

(See 1<sup>st</sup> Cont<sup>n</sup>)

2<sup>nd</sup> Cont<sup>n</sup>

m/v "KAMINA."

DESCRIPTION	Nº IN PARALLEL CEA PAIR	SECTION AREA IN SQ. MM.	AMP. IN CIRCUIT	INSULATION	PROTECTIVE COVERING
To shore supply	1	400	600	V.I.R.	L.C. P.
To 110 V. D.F.B. 2	1	25	20	"	" "
To Ventilation S.B. N°1 (built in M.S.B.)	1	120	220	"	" "
From A.C. Panel M.S.B. to Power S.B. 1. Aux. E.R. M.S.B. 1	1	120	210	"	" "
<u>MAIN DISTRIBUTION CABLES FROM MAIN SWITCH BOARD Nº 1 IN AUX. ENGINE ROOMS</u>					
To shore supply	1	400	600	V.I.R.	L.C. P.
To Boat winches D.F.B. 1	1	25	200	"	" "
To workshop D.F.B. 1 and to Venting Fan	1	16	100	"	" "
To Exhaust aft. Boasting S.B. 1 and 110 V. D.F.B. 1	1	20	213	"	" "
To ventilation S.B. 1 and bilge & fire pump D.B. (in M.S.B.)	1	120	220	"	" "
To Power S.B. 1 (M.S.B.) and to Power D.F.B. 2	1	240	600	"	" "
To Power S.B. 5	1	150	200	"	" "
To Power S.B. 1 and to Galley S.B. 1	1	50	150	"	" "
To Power S.B. 9	1	180	300	"	" "
From A.C. panel M.S.B. 1 to Power D.F.B. 2 main E.R.	1	25	120	"	" "

ESSENTIAL DISTR. CABLES FROM SECTION BOARDS BUILT IN M.S.B. in MAIN E.R.

[illegible]

ESSENTIAL DISTR. CABLES FROM SECTIONBOARDS BUILT IN M.S.B. in AUX. E.P.

Circ. 4, 5, 6, 10, 12 to Lighting S.B. No. 4, 5, 11, 13, 21, 7	1	4	15.6	L.R.	L.C. P.
Circ. 11, 41 to Lighting S.B. 1 & 2 and sea water pump	1	10	50	"	"
Circ. 9 to Lighting S.B. 15 & 19	1	6	22	"	"
Circ. 8, 14, 17, 18, 19, 23, 31, 39, 40 to Lighting S.B. 17	1	16	60	"	"
filp pumps, Tenth. S.B. 5, Exp. m.c., Power S.B. 14/46					
Circ. 15, 16, 20, 21 to fire pumps, vent. S.B. 1 & 3	1	25	80	"	"
Circ. 42 to 110 V. converter	1	70	100	"	"
Circ. 43 to welding converter	1	50	125	"	"
Circ. 44, 45 to Power S.B. 1a and Power S.B. 16/46	1	35	100	"	"
Circ. 46 to Deeps comp.	1	95	200	"	"
Circ. 47 A.C. converter S.1/S.2	1	120	200	"	"

Linking cable between main switchboards

CABLES LINKING SECTIONBOARDS WITH DISTRIBUTION FUSE BOARDS

From S.B. N <sup>os</sup> 1, 2, 3, 4, 5, 6, 7, 11, 12, 13, 14, 15, 16, 17, 19, 20. 21, 22	1	1.5	2.6	V. 1. R.	L. C. P.
From S.B. N <sup>os</sup> 3, 5, 6, 9a, 10a, out. 1, 2, 5	1	6	35	"	" "
From S.B. N <sup>os</sup> 4, 19, 20, A.C. 38-1	1	4	20	"	" "
From S.B. N <sup>os</sup> 8, Vent. S.B. 1, 2	1	2.5	15	"	" "
From S.B. N <sup>o</sup> 77, D.F.B. 16/4c, S.B. 9, D.F.B. 96/100.	1	16	60	"	" "
From S.B. 1a, 5B 4a, 5B, 7, 9a, 5B. 10, 10a.	1	35	100	"	" "
From S.B. 1, 2, 3, 4, 5	1	10	37	"	" "



LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

[illegible]

## MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
E.R. fan motor	1	15	1	16	60	V.I.R.	LC, P	
Food draught fan	2	15.7	1	16	65	"	"	"
Boat winches	4	21	1	95	170	"	"	"
Windlass	1	45	1	70	168	"	"	"
Starling gear	2	15	1	10	59	"	"	"
Bilge pumps	4	15	1	16	60	"	"	"
Fire pumps	2	15	1		60	"	"	"
main cooling water pump	1	15	1	16	60	"	"	"
Transfer pumps	1	9	1	10	35	"	"	"
Ballast pumps	1	6	1	6	35	"	"	"
aux. cooling water pump	1	15	1	16	60	"	"	"
aux. lubr. oil pump	1	49	1	95	200	"	"	"
Captain apt	1	42	1	70	168	"	"	"
sea water service pump	1	9	1	10	35	"	"	"
110 converter	1	35	1	70	100	"	"	"
welding converter	1	30	1	50	135	"	"	"
A.C. converter	2	30	1	120	200	"	"	"
sea water pump	1	9	1	10	35	"	"	"

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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.

Electrical Contractors.

Date

#### COMPASSES.

Have the compasses been adjusted under working conditions Yes

Builder's Signature.

Date

Have the foregoing descriptions and schedules been verified and found correct Yes

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

Plans. Are approved plans forwarded herewith Yes If not, state date of approval       

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

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

The electrical equipment has been examined throughout and repaired as found necessary. The size of the principal cables have been checked and found to correspond with the approved plans. Modifications have been carried out as per approved plans except that the generator main cables have not been increased in size, it was recommended that this be done to complete the Classification survey.

Noted CRH 15.10.51

Total Capacity of Generators 600 Kilowatts.

The amount of Fee ... £ 10,600 : When applied for, 243-19-51

Travelling Expenses (if any) £ : : When received, 19

Committee's Minute 19 OCT 1951

Assigned See F.E. mch. rpt

C. Frankenburg  
Surveyor to Lloyd's Register of Shipping.