

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 7-10-1958 When handed in at Local Office 7-10-1958 Port of SINGAPORE

No. in Survey held at SINGAPORE Date, First Survey 12/6/52 Last Survey 2-7-1958  
 Reg. Book. (No. of Visits 8)

90157 on the STEEL SELF MOTOR VESSEL "BUNSA" (WATER TANKER) Tons { Gross 213-19  
 Net 74-02

Built at SINGAPORE By whom built SINGAPORE HARBOUR BOARD Yard No. 1512 When built 1952

Owners W. HAMMER & CO. LD Port belonging to SINGAPORE

Installation fitted by SINGAPORE HARBOUR BOARD When fitted 1952

Is vessel equipped for carrying Petroleum in bulk No Is vessel equipped with D.F. No. No E.S.D. No. No Gy.O. No. No Sub.Sig. No. No Radar No

Plans, have they been submitted and approved YES System of Distribution 2-WIRE (BATTERIES) Voltage of Lighting 24

Heating NONE Power NONE D.C. or A.C., Lighting DC Power - If A.C. state frequency -

Prime Movers, has the governing been found as per Rule when full load is thrown on and off YES Are turbine emergency governors fitted with a trip switch - Generators, are they compound wound No 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 short field regulators provided - Is the compound winding connected to the negative or 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 - and the results found as per Rule -

Position of Generators ATTACHED TO DIESEL ENGINE OF THE CARGO PUMP

is the ventilation in way of generators satisfactory YES are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil YES Switchboards, where are main switchboards placed FORWARD BULKHEAD OF ENGINE ROOM AT STARBOARD SIDE

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil YES what insulation is used for the panels SINDANYO if of synthetic insulating material is it an Approved Type YES 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 YES Description of Main Switchgear for each generator and arrangement of equaliser switches -

and the switch and fuse gear (or circuit breakers) for each outgoing circuit 5 DOUBLE POLE TUMBLER SWITCHES AND 10 - 3/15 AMPERE FUSES

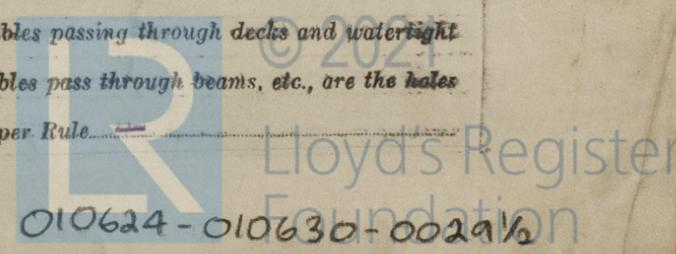
Are compartments containing switchboards composed of fire-resisting material or lined as per Rule - Instruments on main switchboard ONE ammeters - voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided -

Switches, Circuit Breakers and Fuses, are they as per Rule YES are the fuses an Approved Type YES make of fuses ARTIE are all fuses labelled YES If circuit breakers are provided for the generators, at what overload do they operate - and at what current do the reversed current protective devices operate -

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

Cables, are they insulated and protected as per Rule YES 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 - 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 YES are any cables laid under machines or floorplates No if so, are they adequately protected - Are cables in machinery spaces, galleys, laundries, etc., lead covered YES or run in conduit - or of the "HR" type - State how the cables are supported or protected CABLES CLIPPED TO PERFORATED CARRIER BATES

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



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

Navigation Lamps, are they separately wired YES PARALLEL SUPPLIED BY C.A.V. controlled by separate double pole switches and fuses. Are the switches and fuses in a position accessible only to the officers on watch YES, is an automatic indicator fitted NO. Is an alternative supply provided YES.

Secondary Batteries, are they constructed and fitted as per Rule ---, are they adequately ventilated --- state battery capacity in ampere hours ---

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

Searchlight Lamps, No. of 1, whether fixed or portable FIXED, are they of the carbon arc or of the filament type FILAMENT.

Heating and Cooking, is the general construction as per Rule NONE, 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 protected from damage from water, steam and oil ---

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 complied with ---, are all fuses of an Approved Cartridge Type ---, make of fuse --- 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 ---

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

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 YES.

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 BATTERY CHARGING.	1	C.A.V.	-	24.	10/15.	-	SADONIA DUAL ENGINE.	
EMERGENCY ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	BATTERY CHARGING.	1	7/044.	12/15.	-	6FT.	V.I.R.	LEAD.
" EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" GENERATOR								

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
NAVIGATION.	1	0.003	5	12FT.	V.I.R.	LEAD.

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
ALL CABLES.	1	0.003	10	-	300	V.I.R.	LEAD.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.
/		

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.

*H. Borigas*

Electrical Contractors.

Date *7th October, 1952*

COMPASSES.

Have the compasses been adjusted under working conditions *YES.*

*R. Wm. Breeth*  
*Ag. Dockyard Manager*

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 *—*

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

*The electrical appliances of this vessel have been installed under special survey, and in accordance with the approved plans and Rule Requirements.*

*Insulation tests have been carried out and found satisfactory.*

*The installation examined under working conditions and found satisfactory.*

*The electrical installation of this vessel is eligible, in my opinion, to be classed with the Society.*

LIST OF APPROVED PLANS:

WIRING DIAGRAM (S.H.B.)

WIRING DIAGRAM (E.A.V.)

ARRANGEMENT OF CONTROL BOARD

OUTLINE OF SWITCHBOARD

*Noted ADM 31-10-52*

Total Capacity of Generators *—* Kilowatts.

The amount of Fee ... £ *\$120=*

When applied for,

*7/8/52*

When received,

19

Travelling Expenses (if any) £ *—*

*W.P. Watson*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*FRI. 21 NOV 1952*

Assigned

*Sir F.E. Mchey. rpt*

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



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