

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

AUG 27 1937

Date of writing Report

19

When handed in at Local Office

26 AUG 1937

Port of

Newcastle/Tyne

No. in Survey held at

Newcastle

Date, First Survey

15 June

Last Survey

5th August 1937

Reg. Book. S.S.

40851 on the S.S. "YENANGYAUNG"

(Number of Visits.....12.....)

Tons { Gross 5447

Net 3021

When built 1937

Built at

Newcastle

By whom built

S.H. & W.R. Co. Ltd

Yard No. 1531

Owners

Burmah Oil Co. Ltd

Port belonging to

Rangoon

Electric Light Installation fitted by

S.H. & W.R. Co. Ltd

Contract No. 1531

When fitted 1937

Is the Vessel fitted for carrying Petroleum in bulk

Yes

System of Distribution

Double wire

Pressure of supply for Lighting

110

volts, Heating

volts, Power

110

volts.

Direct or Alternating Current, Lighting

Direct

Power

Direct

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off

Yes

Generators, do they comply with the requirements regarding temperature rise

Yes

, are they compound wound

Yes

are they over compounded 5 per cent.

Yes

, if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel

Yes

, is an adjustable regulating resistance fitted in series with each shunt field

Yes

Have certificates of test results for machines under 100 kw. been submitted and approved

Yes

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing

Are all terminals accessible, clearly marked, and furnished with sockets

Yes

, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched

Yes

Are the lubricating arrangements of the generators as per Rule

Yes

Position of Generators

Engine room starboard

in way of the generators satisfactory

Yes

are they clear of all inflammable material

Yes

if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

are the generators protected from mechanical injury and damage from water, steam or oil

Yes

, are their axes of rotation fore and aft

Yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed

Yes

are the prime movers and their respective generators in metallic contact

Yes

Main Switch Boards, where placed

Engine room starboard side

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes

Yes

, are they protected from mechanical injury and damage from water, steam or oil

Yes

horizontally from or vertically above the switchboards

and

materials

Yes

, are they constructed wholly of durable, non-ignitable non-absorbent materials

is it of an approved type

Yes

, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework

type

Yes

Are the fittings as per Rule regarding: — spacing or shielding of live parts

Yes

, accessibility of all parts

Yes

, absence of fuses on back of board

Yes

, temperature rise of omnibus bars

Yes

, individual fuses to voltmeter, pilot or earth lamp

Yes

, are moving parts of switches alive in the "off" position

No

are all screws and nuts securing connections effectively locked

Yes

are any fuses fitted on the live side of switches

No

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

T.P. C.B. for each main generator. DPB & DP fuses on each outgoing circuit

Are turbine driven generators fitted with emergency trip switch as per rule

None

Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material

Yes

Instruments on main switchboard

2

ammeters

2

voltmeters — synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

Yes

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

5 lamps coupled to & through switches & fuses

Switches, Circuit Breakers and Fusible Cut-outs,

do these comply with the requirements of the Rules

Yes

are the fusible cutouts of an approved type

Yes

have the reversed



current protection devices been tested under working conditions *Yes* / *Yes* Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule *Yes* / *Yes* Cables: Single, twin, concentric, or multicore *single* / *Yes* are the cables insulated and protected as per Tables IV, V, X or XI of the Rules *Yes* / *Yes* If the cables are insulated otherwise than as per Rule, are they of an approved type *Yes* / *Yes* Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *4.8 volts* / *Yes* Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets *Yes* / *Yes* Paper Insulated and Varnished Cambric Insulated Cables, If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *Yes* / *Yes* Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage *Yes* / *Yes* Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit *Lead covered* / *Yes* Support and Protection of Cables, state how the cables are supported and protected *L.C. A+B in machinery spaces and engine room* / *Yes* Ditto in galv iron pipes along decks. *L.C. A+B in all clips to structure* / *Yes* If cables are run in wood casings, are the casings and caps secured by screws *Yes* / *Yes* are the cap screws of brass *Yes* / *Yes* are the cables run in separate grooves *Yes* / *Yes* If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII *Yes* / *Yes* Refrigerated Chambers, are the cables and fittings in accordance with the special requirements *Yes* / *Yes* Joints in Cables, state if any, and how made, insulated, and protected *none made* / *Yes* Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *Yes* / *Yes* Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *Yes* / *Yes* state the material of which the bushes are made *Lead* / *Yes* Earthing Connections, state what earthing connections are fitted and their respective sectional areas *Yes* / *Yes* are their connections made as per Rule *Yes* / *Yes* Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *Yes* / *Yes* Emergency Supply, state position and method of control of the emergency supply and how the generator is driven. *Yes* / *Yes* Navigation Lamps, are these separately wired *Yes* / *Yes* controlled by separate switch and separate fuses *Yes* / *Yes* are the fuses double pole *Yes* / *Yes* are the switches and fuses grouped in a position accessible only to the officers on watch *Yes* / *Yes* has each navigation lamp an automatic indicator as per Rule *Yes* / *Yes* Secondary Batteries, are they constructed and fitted as per Rule *Yes* / *Yes* Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight *Yes* / *Yes* are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected *Yes* / *Yes* are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *Yes in pump room* / *Yes* special gaslight fittings *Yes* / *Yes* in solid galv'd screwed conduit *Yes* / *Yes* where are the controlling switches situated *in midship acc* / *Yes* are all fittings suitably ventilated *Yes* / *Yes* are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials *Yes* / *Yes* Heating and Cooking Appliances, are they constructed and fitted as per Rule *Yes* / *Yes* are air heaters constructed and fitted as per Rule *Yes* / *Yes* Searchlight Lamps, No. of *Yes* / *Yes* whether fixed or portable *Yes* / *Yes* are their fittings as per Rule *Yes* / *Yes* Arc Lamps, other than searchlight lamps, No. of *Yes* / *Yes* are their live parts insulated from the frame or case *Yes* / *Yes* are their fittings as per Rule *Yes* / *Yes* Motors, are their working parts readily accessible *Yes* / *Yes* are the coils self-contained and readily removable for replacement *Yes* / *Yes* are the brushes, brush holders, terminals and lubricating arrangements as per Rule *Yes* / *Yes* are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *Yes* / *Yes* are they protected from mechanical injury and damage from water, steam or oil *Yes* / *Yes* are their axes of rotation fore and aft *Yes* / *Yes* if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type *Yes* / *Yes* if not of this type, state distance of the combustible material horizontally or vertically above the motors *Yes* / *Yes* have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing *Yes* / *Yes* Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule *Yes* / *Yes* Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *Yes* / *Yes* Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings *Yes* / *Yes* are all fuses of the filled cartridge type *Yes* / *Yes* are they of an approved type *Yes* / *Yes* If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office *Yes* / *Yes* Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule *Yes* / *Yes*

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY		WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.			Fuel Used.	Flash Point of Fuel.
MAIN ...	2	25	110	228	600	1 Steam 1 Diesel		Diesel Oil	Over 150° F.
AUXILIARY ...									
EMERGENCY ...									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rate.			
MAIN GENERATOR ...	1	3	37	.108	228	240	50	Y.I.R	L.C.A + B.
EQUALISER CONNECTIONS ...	1	2	19	.083		118	25	"	"
AUXILIARY GENERATOR ...									
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER MOTOR GENERATOR...	1	.01	7	.044	26	31	50	"	"
ENGINE ROOM...									
BOILER ROOM...									
AUXILIARY SWITCHBOARDS Navigation	1	.0225	7	.064	24	46	400	"	"
ACCOMMODATION Donkey	1	.01	7	.044	8	31	540	"	"
Midships	1	.06	19	.064	67	43	360	"	"
Aft	1	.0225	7	.064	46	46	50	"	"
WIRELESS	1	.0225	7	.064	15	46	400	"	"
SEARCHLIGHT	1	.002	3	.029	.36	7.8	300	"	"
MASTHEAD LIGHT	1	.002	3	.029	.36	7.8	100	"	L.C.A + B
SIDE LIGHTS	1	.002	3	.029	.09	7.8	60	"	"
COMPASS LIGHTS	1	.002	3	.029	.36	7.8	600	"	"
Starboard LIGHTS									
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rate.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS...										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR...										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP...										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR...										
(b) MAIN MOTOR	1	1	.0225	7	.064	40	46	80	Y.I.R	L.C.A + B
WORKSHOP MOTOR										
VENTILATING FANS										
Refng machine	1	1	.075	19	.072	88	97	80	"	"
Brine pump	1	1	.0045	7	.029	12	18.2	80	"	"
Water pump	1	1	.0045	7	.029	12	18.2	80	"	"
Oil Separator	3	1	.0045	7	.029	16	18.2	60	"	"
F.O Priming pump	1	1	.0045	7	.029	12	18.2	60	"	"
S.L. Filter pump	1	1	.002	3	.029	4	7.8	50	"	"
Vapour seal fan	1	1	.0045	7	.029	10.4	18.2	60	"	"
S.O fan	1	1	.0225	7	.064	42	46	80	"	"
Steam	1	1	.01	7	.044	24	31	60	"	"

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

FOR
SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

Electrical Engineers.

Date

10th Aug 1937

COMPASSES.

Distance between electric generators or motors and standard compass

165 feet

Distance between electric generators or motors and steering compass

160 feet

The nearest cables to the compasses are as follows:—

A cable carrying .09 Ampères on the feet from standard compass 5 feet from steering compass.

A cable carrying .09 Ampères 5 feet from standard compass on the feet from steering compass.

A cable carrying 1.08 Ampères 8 feet from standard compass 6 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 all course in the case of the standard compass, and nil degrees on all course in the case of the steering compass.

FOR

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

Builder's Signature.

Date

10th Aug 1937

Is this installation a duplicate of a previous case — If so, state name of vessel —

General Remarks (State quality of workmanship, opinions as to class, &c.) The above installation has been

fitted out under special survey. The materials used and the workmanship are good. On completion the dynamo, governors, circuit breakers, main board, switches, fuses, cables, motors and fittings were examined and tested under working conditions and found satisfactory and suitable for a classed vessel. The insulation resistance was tested and found good. This vessel is eligible in my opinion, to have the notations E.S.D. and D.F. in the Register Book.

Initial

WRS 1/9/37

Total Capacity of Generators 50 Kilowatts.

The amount of Fee ...

£ 27 : 10 :

When applied for,

26 AUG 1937

Travelling Expenses (if any) £

:

When received,

7.9.19.37/89

W.T. Badger & Santerson

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 3 SEP 1937

Assigned

See Mtr. JE 95379

2m.534.— Transfer.
The Signatories are requested not to write on or below the space for Committee's Minute.



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