

113 MAY 1954

Rpt. 13.

No. 81827

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 23-4-1954 When handed in at Local Office 4.5.1954 Port of GLASGOW

No. in Survey held at PORT GLASGOW & GLASGOW Date, First Survey 18-1-54 Last Survey 14-4-1954
Reg. Book.

(No. of Visits 11)

40895 on the M.V. "PACIFIC STAR"

Tons { Gross 11217.88
Net 6328.49

Built at PORT GLASGOW By whom built W.M. HAMILTON & CO LTD Yard No. 492 When built 1954

Owners BOOTH STEAMSHIP CO. LTD. Port belonging to GLASGOW

Installation fitted by THE SUNDERLAND FORGE & ENGINEERING CO. LTD. When fitted 1954

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

Plans, have they been submitted and approved Yes System of Distribution Two wire Voltage of Lighting 110

Heating 110 Power 110 D.C. or A.C., Lighting D.C. Power D.C. 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 Yes, and level compounded under working conditions Yes

Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole Negative

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule Yes Position of Generators Two diesel sets, port

side, forward end of engine room. One steam set, on flat above diesel sets.

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 On platform, port

side, forward end of engine room, between diesel and steam sets.

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 "Sindango"

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 Triple pole circuit breaker fitted with overload, reverse current and undervoltage trips.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Double pole circuit breaker fitted with overcurrent trips, or Double pole knife switch and cartridge type fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 3
ammeters 3 voltmeters — synchronising devices. For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection. Yes Earth Testing, state means provided

Earth lamps. Preference Tripping, state if provided No, and tested —

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

make of fuses Siemens, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 150% full load current

and at what current do the reverse current protective devices operate 10-15% full load current.

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 under 6% B.B. volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends. 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 any cables laid under machines or floorplates. Yes, if so, are they adequately protected Yes State

type of cables (if in conduit this should also be stated) in machinery spaces LCB & LCAB, galleys LCAB

and laundries LC & LCAB State how the cables are supported or protected Machinery spaces LCB & LCAB

cables clipped to steel plate, or perforated tray. Main LCAB cables clipped to steel plate or perforated tray. Recommendation LC cables clipped to woodwork

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 bushed. Yes Refrigerated chambers, are the cables and fittings as per Rule Domestic Refrig. only

Have refrigeration fan motors been constructed under survey — and test certificates supplied —

Are the motors accessible for maintenance at all times —

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

Navigation Lamps, are they separately wired Yes controlled by separate double pole switches 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 Is an alternative supply provided Yes

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule Yes, state battery capacity in ampere hours Yes Where required to do so does it comply with 1948 International Convention Yes

Lighting, is fluorescent lighting fitted No If so, state nominal lamp voltage Yes and compartments where lamps are fitted Yes

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

Searchlights, No. of None, whether fixed or portable Yes, are they of the carbon arc or of the filament type 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 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil Yes

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 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 sea services been supplied and the results found as per Rule Yes

Lightning Conductors, where required are they fitted as per Rule Yes

Ships carrying Oil having a Flash Point of less than 150° F. Have all the special requirements of the Rules for such ships been complied with Yes, are all fuses of an Approved Cartridge Type Yes, make of fuse Siemens Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships Yes Are all cables lead covered as per Rule Yes

E.S.D., if fitted state maker Masconi Location of transmitter and receiver Frame space 45-46

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

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.	
			Kw. per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	Sunderland Forge	150	110	1364	600	Oil	British Polar
	1	Sunderland Forge	50	110	455	550	Steam	Sunderland Forge
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	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	2	150	4	37/103	1364	1632	80	VC	LCB
"	1	50	2	37/103	—	816	40	"	"
"	1	50	2	37/072	455	520	30	"	"
"	1	50	2	37/072	—	260	15	"	"
EMERGENCY GENERATOR									
ROTARY TRANSFORMER: MOTOR									
"									

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.								
Engine Room Aux. Vent Fans etc	D.B. 2	1	19/064	80	143	70	VC	LCAB
Engine Room Aux. Purifiers	D.B. 3	1	19/064	140	143	50	"	"
Galley Gear & Gen Rft Power	D.B.	1	19/083	103	202	140	"	"
Shore Connection Box		1	19/083	200	202	120	"	"
Midship Sub-Switchboard		1	37/103	158	408	560	"	"

DISTRIBUTION CABLES (to Section-Boards and 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.
			In the Circuit.	Rule.			
Engine Room Aux. Workshop etc.	D.B. 1	7/064	40	80	200	VC	LCAB
Searchlight connection	1	19/064	27.3	143	420	"	"
Crew Rft lighting	Section Box	19/064	93	143	140	"	"
Upper Deck lighting, Port	D.B.	7/044	18	31	100	VIR	LC
Upper Deck lighting, aft	D.B.	7/044	14	31	220	"	"
Port Deck lighting, Port	D.B.	7/044	25	31	80	"	"
Galley Gear	D.B.	7/064	36	80	200	VC	"
Engine Room lighting	Section Box	19/064	71	143	70	"	LCAB
Engine Room lighting, top alt.	D.B.	7/044	15	31	110	VIR	"
Engine Room lighting, bottom alt.	D.B.	7/044	15	31	130	"	"
Low Power Battery Charging Panel.	1	7/029	5	15	60	"	"
Master lantern & Forecastle lighting	D.B.	7/044	19.8	31	120	"	LC
Navigation gear	D.B.	7/064	30	80	120	VC	"
Gyro supply.	1	7/044	8.0	31	120	VIR	"
Wireless supply.	1	7/064	15	80	120	VC	"
Echo Sounder	1	1/064	5	10	40	VIR	"
Bridge lighting	D.B.	7/044	18	31	80	"	"
Bridge deck lighting, port	D.B.	7/064	23	80	90	VC	"
Bridge deck lighting, starboard	D.B.	7/064	20	80	20	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
S.W. Cooling Pump	1	40	1	37/083	314	314	✓ 200	VC	LCAB
F.W. Cooling Pump	1	55	2	37/072	434	520	✓ 150	"	"
Forced L.O. Pump	1	16	1	19/064	130	143	✓ 250	"	"
F.D. Fan	1	10	1	19/064	88	143	✓ 300	"	"
Turning Gear	1	20	1	19/083	150	202	✓ 180	"	"
Aux. S.W. Circ. Pump.	1	2.5	1	7/044	23	31	✓ 70	VIR	"
Purifiers	4	4	1	7/064	33.3	80	✓ 80	VC	"
Engine Room Vent. Fans	2	3.2	1	7/044	27	31	✓ 100	VIR	"
Refrig. Compressor	1	4	1	7/064	35	80	✓ 300	VC	"
Turning Pump	1	1.5	1	7/044	13	31	✓ 90	VIR	"

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.

per pro. THE SUNDERLAND FORGE & ENG. CO. LIMITED. Electrical Contractors. Date 28. 4. 54

DIRECTOR

COMPASSES.

Have the compasses been adjusted under working conditions. Yes

Isaac W. Smith

Builder's Signature.

Date May 1st 1954

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. No If not, state date of approval 25-4-1953

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

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)

The electrical installation of this vessel has been fitted on board under Special Survey, tested under working conditions and found satisfactory. The quality of materials and workmanship is good.

Noted to
21/5/54

Total Capacity of Generators 350 V Kilowatts.

The amount of Fee ... £ 94 : 10 1954. When applied for,

2/15th to Sunderland £ 18 : 18 : 19

4/5th to Glasgow £ 75 : 12 : 19

Travelling Expenses (if any) £ — : 17 : 6

Glasgow.

Fred B. Mat.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 11 MAY 1954

Assigned

SEE ACCOMPANYING MACHINERY REPORT



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Foundation