

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

18 FEB 1949

Received at London Office

Date of writing Report 21ST JANUARY 1949. When handed in at Local Office 16 FEB 1949 Port of NEWCASTLE-ON-TYNE

No. in Survey held at WALLSEND-ON-TYNE. Date, First Survey 25TH NOV. 1948 Last Survey 21ST JANUARY, 1949. (No. of Visits 12)

Reg. Book. 95414. on the M.V. "PALUDINA". Tons { Gross 6414 Net 2926

Built at WALLSEND. By whom built SWAN HUNTER & WIGHAM RICHARDSON LTD Yard No. 1771. When built 1948

Owners ANGLI-SAXON PETROLEUM CO. LTD. Port belonging to LONDON.

Installation fitted by SWAN HUNTER & WIGHAM RICHARDSON LTD When fitted 1948

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. -

Plans, have they been submitted and approved. YES System of Distribution Two WIRE Voltage of Lighting 110.

Heating - 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

if not compound wound state distance between generators. - and from switchboard. - Are the generators arranged to run in parallel No, are shunt field regulators provided YES 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. YES and the results found as per Rule. YES.

Position of Generators IN ENGINE ROOM.

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 NEAR GENERATORS

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 INTEROHM, 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. DOUBLE POLE SWITCH AND FUSES.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit DOUBLE POLE CHANGEOVER SWITCH AND 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 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 ARTIC & SIEMENS ZED, 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 -

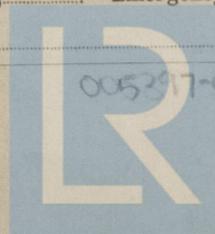
state maximum fall of pressure between bus bars and any point under maximum load < 4 VOLTS, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets. YES Are all paper insulated and varnished cambric insulated cables sealed at the ends. YES

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. No, if so, are they adequately protected. - Are cables in machinery spaces, galleys, laundries, etc., lead covered. YES or run in conduit. -

of the "HR" type. - State how the cables are supported or protected MAINS - LEAD COVERED ARMOURD CLIPPED TO STEEL TRAY ACCOMMODATION CABLES - LEAD COVERED CLIPPED TO WOOD GROUNDS.

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. -

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



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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 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 Yes if so, how are they protected "WIGAN" FLAMEPROOF FITTINGS.

and where are the controlling switches fitted ACCOMMODATION ALLEYWAY. Are all fittings suitably ventilated Yes.

Searchlight Lamps, No. of ONE, 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 -, 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 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 -. 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 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 an Approved Cartridge Type Yes, make of fuse SIEMENS ZED TYPE. Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships Yes. Are the cables lead covered as per Rule Yes. E.S.D., if fitted state maker MARCONI "SEAGRAPH" location of transmitter FRAME 42 P.S. ENGINE ROOM and receiver FRAME 42 ENGINE ROOM.

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.		
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	1	SUNDERLAND FORGE.	30	110	273	675	STEAM	SUNDERLAND FORGE.
	1	SUNDERLAND FORGE.	30	110	273	675	DIESEL.	RUSTON HORNSBY.
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	30	1	37-083	273	296	30	V.C.	L.C. + A.
EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER MOTOR								
GENERATOR								

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

DESCRIPTION.								
WORKSHOP MOTOR SECTION BOARD	S.B. L.	1	7-052.	57	57	225	V.C.	L.C. + A.
ENGINE ROOM MOTORS SECT. BOARD.	S.B. K.	1	19-052.	104	104	120	V.C.	L.C. + A.
AFT ACCOMM. LIGHTING, ETC. SECT. BOARD.	S.B. "D"	1	19-052	75	104	265	V.C.	L.C. + A.
ENGINE ROOM LIGHTING.	S.B. "E"	1	19-044	87	87	125	V.C.	L.C. + A.
MIDSHIP SWITCHBOARD.		1	37-103	239	385	600	V.C.	L.C. + A. + B.
MIDSHIP ACCOMM. LIGHTING ETC.	S.B. "B"	1	7-052	56	57	30	V.C.	L.C.
MIDSHIP ACCOMM. LIGHTING ETC.	S.B. "C"	1	7-044	27	42	45	V.C.	L.C.
SHORE CONNECTION.		1	37-072	-	246	210	V.C.	L.C. + A.

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.				
WIRELESS	1	7-064	40	75	150	V.C.	L.C.	
NAVIGATION LIGHTS.	1	3-029	1	5	20	V.I.R.	L.C.	
AFT ACCOMMODATION LIGHTING.	D.B. "D1"	1	7-044	21	42	100	V.C.	L.C.
AFT ACCOMMODATION LIGHTING.	D.B. "D2"	1	7-044	26	42	52	V.C.	L.C.
AFT ACCOMMODATION LIGHTING.	D.B. "D3"	1	7-044	14	42	80	V.C.	L.C.
AFT ACCOMMODATION LIGHTING.	D.B. "D4"	1	7-044	12	42	35	V.C.	L.C.
ENGINE ROOM LIGHTING.	D.B. "E1"	1	7-044	30	42	100	V.C.	L.C. + A.
ENGINE ROOM LIGHTING.	D.B. "E2"	1	7-044	30	42	56	V.C.	L.C. + A.
CARGO CONNECTION BOXES AFT.	D.B. "J"	1	7-044	28	42	150	V.C.	L.C. + A.
MIDSHIP ACCOMM. LTG. ETC.	D.B. "B1"	1	7-044	20	42	72	V.C.	L.C.
MIDSHIP ACCOMM. LTG. ETC.	D.B. "B2"	1	7-044	20	42	30	V.C.	L.C.
MIDSHIP ACCOMM. LTG. ETC.	D.B. "B3"	1	7-044	24	42	36	V.C.	L.C.
CARGO CONNECTION BOXES MIDSHIPS.	D.B. "H"	1	7-044	28	42	60	V.C.	L.C.
WHEELHOUSE LIGHTING.	D.B. "A"	1	7-044	30	42	180	V.C.	L.C.
MIDSHIP STORES LIGHTING.	D.B. "C1"	1	7-044	7	42	25	V.C.	L.C.
FORECASTLE LIGHTING.	D.B. "C2"	1	7-052	20	54	380	V.C.	L.C. + A. + B.
SUEZ CANAL PROJECTOR.		1	19-064	30	135	450	V.C.	L.C. + A. + B.
GYRO COMPASS.		1	7-036	20	28	30	V.C.	L.C.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
LATHE MOTOR.	1	2	7-036	18	28	32	V.C.	L.C. + A.
GRINDSTONE MOTOR.	1	2	7-036	18	28	40	V.C.	L.C. + A.
DRILLING M/C MOTOR.	1	2	7-036	18	28	36	V.C.	L.C. + A.
TURNING BEAR MOTOR.	1	10	19-052	90	104	225	V.C.	L.C. + A.
CRANE MOTOR	1	3	7-036	27	28	85	V.C.	L.C. + A.
FUEL VALVE COOLING PUMP MOTOR	1	2	7-036	18	28	140	V.C.	L.C. + A.
FUEL PRIMING PUMP MOTOR	1	1/2	7-029	14	15	160	V.C.	L.C. + A.
LUB OIL PURIFIER MOTOR	1	2 1/2	7-036	24	28	120	V.C.	L.C. + A.
AFT ACCOMMODATION VENT FAN MOTOR	1	4	7-044	36	42	200	V.C.	L.C. + A.
MIDSHIP ACCOMMODATION VENT FAN MOTOR	1	4	7-044	36	42	136	V.C.	L.C.
ORDOIL CLARIFIER MOTOR.	1	7 1/2	7-064	68	75	160	V.C.	L.C. + A.
ORDOIL PURIFIER MOTOR.	1	7 1/2	7-064	68	75	130	V.C.	L.C. + A.

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.

For
 SWAN, HUNTER, & WIGHAM RICHARDSON, LTD. *[Signature]* Electrical Contractors. Date 22/1/49

COMPASSES.

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

For
 SWAN, HUNTER, & WIGHAM RICHARDSON, LTD. *[Signature]* Builder's Signature. Date 22.1.49.

Have the foregoing descriptions and schedules been verified and found correct..... YES

Is this installation a duplicate of a previous case YES. If so, state name of vessel M.V. "LEMBULUS"

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 OF THIS SHIP HAS BEEN INSTALLED IN ACCORDANCE WITH THE SOCIETY'S
 RULES AND REGULATIONS AND THE ARRANGEMENTS ARE IN ACCORDANCE WITH OR EQUIVALENT TO THOSE
 SHOWN ON THE APPROVED PLANS.

THE MATERIALS USED ARE OF GOOD QUALITY AND THE WORKMANSHIP IS SATISFACTORY.

ON COMPLETION THE INSULATION RESISTANCE OF ALL CIRCUITS WAS ABOVE RULE REQUIREMENTS
 AND THE GENERATORS OPERATED ON LOAD AND GOVERNING TESTS WITH SATISFACTORY RESULTS.

THE EQUIPMENT, AS INSTALLED, IS IN MY OPINION, SUITABLE FOR A CLASSED SHIP.

*Noted SW 10/3/49
 H. J.*

Total Capacity of Generators 60 ✓ Kilowatts.

The amount of Fee ... £ 49 : 0 :
 Travelling Expenses (if any) £ : :
 When applied for, 17 FEB 1949
 When received, 19

[Signature]
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 1 APR 1949

Assigned See F.E. indy rph

Im. 11.15—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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