

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 7 MAY 1948

Date of writing Report.....19..... When handed in at Local Office.....22/4/48..... Port of NEWCASTLE-ON-TYNE

No. in Survey held at HEBBURN-ON-TYNE. Date, First Survey 27TH JUNE 1947 Last Survey 19TH APRIL 1948
Reg. Book. (Number of Visits.....37.....)

36448 on the S.S. "AURIS" Tons {Gross 8220.89
Net 4701.33

Built at HEBBURN-ON-TYNE. By whom built HAWTHORN LESLIE & CO. LTD. Yard No. 686 When built 1947/48

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

Electrical Installation fitted by HAWTHORN LESLIE & CO. LTD. Contract No. - When fitted 1947/8

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

Have plans been submitted and approved YES System of Distribution TWO WIRE-INSULATED. Voltage of supply for Lighting 110
400/3/50 AC.

Heating - Power 110 DC Direct or Alternating Current, Lighting D.C. Power DC. + AC. If Alternating Current state periodicity 50 Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off YES Are turbine emergency governors fitted with a

trip switch as per Rule - Generators, are they compound wound STEAM + DIESEL SETS - YES, are they level compounded under working conditions YES
MOTOR DRIVEN SETS - NO.

if not compound wound state distance between generators - and from switchboard - Where more than one generator is fitted are they

arranged to run in parallel STEAM + DIESEL SETS - YES, 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 Are the lubricating arrangements and the construction

of the generators as per rule YES Position of Generators IN MAIN ENGINE ROOM.

is the ventilation in way of generators satisfactory YES are they clear of inflammable material YES, if situated

near unprotected combustible material state distance from same horizontally - and vertically -, are the generators protected from mechanical

injury and damage from water, steam and oil YES, are the bedplates and frames earthed YES and the prime movers and generators in metallic

contact YES Switchboards, where are main switchboards placed IN FORWARD END OF ENGINE ROOM NEAR GENERATORS.

are they in accessible positions, free from inflammable gases and acid fumes YES, are they protected from mechanical injury and damage from water, steam

and oil YES, if situated near unprotected combustible material state distance from same horizontally - and vertically -, what insulation

material 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 frame effectually earthed YES

Is the construction as per Rule YES, including accessibility of parts YES, absence of fuses on the back of the board YES, individual fuses

to pilot and earth lamps, voltmeters, etc. YES locking of screws and nuts YES, labelling of apparatus and fuses YES, fuses on the "dead"

side of switches YES Description of Main Switchgear for each generator and arrangement of equaliser switches 300 AMPERE CIRCUIT BREAKER

TWO POLE ON MOTOR DRIVEN GENERATORS AND THREE POLE ON STEAM AND DIESEL ENGINE DRIVEN GENERATORS. EACH CIRCUIT BREAKER WITH OVERLOAD

RELAYS AND REVERSE CURRENT TRIP.

and for each outgoing circuit DOUBLE POLE SWITCH WITH A FUSE ON EACH POLE.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES. Instruments on main switchboard FOUR

ammeters TWO voltmeters - synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection YES Earth Testing, state means provided EARTH LAMPS.

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an approved type YES, are all fuses labelled as

per Rule YES. If circuit breakers are provided for the generators, at what overload current did they open when tested 350 AMPS, are the reversed current

protection devices connected on the pole opposite to the equaliser connection YES, have they been tested under working conditions, and at what current

did they operate YES/40 AMPS. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YES

Cables, are they insulated and protected as per the appropriate Tables of the Rules 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 4.3 VOLTS, are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets YES. Are paper insulated and varnished cambric insulated cables sealed at the ends YES.

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with insulating compound — or waterproof insulating tape 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 cables laid under machines or floorplates YES, if so, are they adequately protected YES. Are cables in machinery spaces, galleys, laundries, etc., lead covered YES or run in conduit —. State how the cables are supported and protected. MAIN CABLES - LEAD COVERED ARMoured AND BRAIDED CLIPPED TO STEEL TRAY.

ACCOMMODATION CABLES - LEAD COVERED CLIPPED TO WOOD GROUND.

Are all lead sheaths, armoring and conduits effectually bonded and earthed YES. Refrigerated chambers, are the cables and fittings as per Rule —. 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 and with what material LEAD. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule YES. Emergency Supply, state position — and method of control —.

Navigation Lamps, are they separately wired YES controlled by separate double pole switches YES 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. Secondary Batteries, are they constructed and fitted as per Rule —, are they adequately ventilated — what is the 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 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" FLAME PROOF TYPE FITTINGS IN 'BETWEEN DECK SPACE CENTRE CASTLE.

and where are the controlling switches fitted IN OFFICERS ACCOMMODATION ALLEYWAY., are all fittings suitably ventilated YES, are all fittings and accessories constructed and installed as per Rule YES. Searchlight Lamps, No. of ONE, whether fixed or portable PORTABLE, are their fittings as per Rule YES. 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 YES and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil YES, if situated near unprotected combustible material state minimum distance from same horizontally — and vertically —. Are motors coupled to oil fuel transfer and unit 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 —. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule YES. 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 the cartridge type YES are they of an approved type YES. 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. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule YES, are they 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	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	2	30	110	273	1490.	ELECTRIC MOTOR		
	1	30	110	273	1490.		STEAM ENGINE.	
	1	30	110	273	1490.	DIESEL ENGINE.	Oil	Above 150°F.
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
		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	60	V.C.	L.C.A.+B.
" " EQUALISER ...		1	37-083	137	296	30	V.C.	L.C.A.+B.
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

110 Volts. D.C. 50 Cycles.

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.	
	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.				
AUX. SWITCHBOARDS AND SECTION BOARDS ...								
ENGINE ROOM AUXILIARIES	SECTION BOX No. 6	1	19-064.	122	135	150	V.C.	L.C.A.+B.
ENGINE ROOM LIGHTING ETC.	SECTION BOX No. 4.	1	19-064.	84.9	135	60	V.C.	L.C.A.+B.
WORKSHOP MACHINES	SECTION BOX No. 5.	1	19-052	52	104	120	V.C.	L.C.A.+B.
MIDSHIP SWITCHBOARD.		1	37-103.	286.1	385	570	V.C.	L.C.A.+B.
MIDSHIPS ACCOMMODATION LTA.	SECTION BOX No. 1.	1	19-064	110.6	135	60	V.C.	L.C.
POOP ACCOMMODATION LTA. ETC.	SECTION BOX No. 2.	1	19-064	38	135	180	V.C.	L.C.A.+B.
POOP ACCOMMODATION LTA. ETC.	SECTION BOX No. 3.	1	19-052	24.5	104	210	V.C.	L.C.A.+B.
SHORE CONNECTION		1	37-072	246	246	-	V.C.	L.C.A.+B.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS		1	19-064.	30	135	165	V.C.	L.C.
NAVIGATION LIGHTS		1	7-036.	7.8	24	180	V.I.R.	L.C.
LIGHTING AND HEATING		1	7-064.	26	46	90	V.I.R.	L.C.A.+B.
ALTERNATOR-PROP. MOTOR HEATER + COOLING LAMPS	D.B. 18	1	7-064.	12	46	150	V.I.R.	L.C.A.+B.
ENGINE ROOM LIGHTING ETC.	D.B. 16	1	7-036.	6.4	24	180	V.I.R.	L.C.A.+B.
ENGINE ROOM LIGHTING. ETC.	D.B. 15	1	7-036.	7.6	24	90	V.I.R.	L.C.A.+B.
ENGINE ROOM LIGHTING. ETC.	D.B. 14	1	7-036	9.5	24	210	V.I.R.	L.C.A.+B.
ENGINE ROOM LIGHTING. ETC.	D.B. 13	1	7-036.	6.82	24	96	V.I.R.	L.C.A.+B.
ENGINE ROOM LIGHTING. ETC.	D.B. 12	1	7-036.	8.73	24	210	V.I.R.	L.C.A.+B.
ENGINE ROOM LIGHTING. ETC.	D.B. 11	1	7-036.	10.9	24	96	V.I.R.	L.C.A.+B.
FORECASTLE LIGHTING.	D.B. 0	1	19-052.	5.4.	104.	445	V.C.	L.C.A.+B.
NAVIGATING BRIDGE LIGHTING.	D.B. 1.	1	19-052	40	104	150	V.C.	L.C.
UPPER BRIDGE DECK LIGHTING.	D.B. 2.	1	7-044.	16.5	31	90	V.I.R.	L.C.
SOCKETS FOR IRONS	D.B. 19	1	7-064	30	46	75	V.I.R.	L.C.
PANTRY GEAR. BRIDGE DECK PORT.	D.B. 3	1	7-064	33.9	46	60	V.I.R.	L.C.
BRIDGE DECK LIGHTING.	D.B. 4	1	7-044	21.2	31	60	V.I.R.	L.C.
GYRO COMPASS		1	7-036	9	24	30	V.I.R.	L.C.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
FUEL OIL CLARIFIER MOTOR.	1	7.5	1	19-052.	61	104	30	V.C.	L.C.A.+B.
FUEL OIL PURIFIER MOTOR.	1	7.5	1	19-052.	61	104	30	V.C.	L.C.A.+B.
LUB. OIL PURIFIER MOTOR.	1	3.5	1	7-064.	28	46	216	V.I.R.	L.C.A.+B.
LATHE MOTOR.	1	3	1	7-044	25.6	31	60	V.I.R.	L.C.A.+B.
DRILLING MACHINE MOTOR.	1	2	1	7-044	17.2	31	60	V.I.R.	L.C.A.+B.
GRINDING MACHINE MOTOR.	1	1	1	7-044.	9.2	31	60	V.I.R.	L.C.A.+B.
COMPRESSOR MOTOR.	1	10	1	19-052	80	104	216	V.C.	L.C.A.+B.
MIDSHIP ACCOMM. VENT FAN	2	4 1/4.	1	7-064.	35	46	255	V.I.R.	L.C.
SEA WATER CIRCULATING PUMP MOTOR.	1	34	1	19-052.	42.5	104	75	V.C.	L.C.A.+B. 3 CORE.
SANITARY PUMP MOTOR.	1	8	1	7-036	10.8	24	150	V.I.R.	L.C.A.+B. 3 CORE.
ALTERNATOR COOLING FAN MOTORS.	4	8	1	7-036	11.0	24	75	V.I.R.	L.C.A.+B. 3 CORE.
LUB. OIL PUMP MOTOR	1	29	1	19-052.	39	104	150	V.C.	L.C.A.+B. 3 CORE
FRESH WATER COOLING PUMP MOTOR.	1	32	1	19-052	40	104	150	V.C.	L.C.A.+B. 3 CORE.
PROPELLER MOTOR COOLING FANS	2	12	1	7-044	17	31	105	V.I.R.	L.C.A.+B. 3 CORE.
AUXILIARY TRANSFORMERS.	2	125 KVA.							
H.V. PANEL TO TRANSFORMER	1		1	19-052	90	104	75	V.C.	L.C.+B.
L.V. TRANSFORMER TO PANEL.	1		1	19-083	180	191	75	V.C.	L.C.+B.

LIGHTING AND HEATING ETC. CABLES (CONTINUED.)

PORTABLE CONNECTIONS MIDSHIPS.	D.B. No. 5.	1	7-044.	13.1	31	90	V.I.R.	L.C.
SUEZ CANAL PROJECTOR.		1	19-052.	50	104	750	V.C.	L.C. + L.C.A.+B.
AFT. ACCOMM. LTA. UPPER DECK STAR ^B .	D.B. No. 6.	1	7-044.	16.9	31	30	V.I.R.	L.C.
GALLEY GEAR + LTA. UPPER DECK PORT.	D.B. No. 7	1	7-064.	21.1	46	150	V.I.R.	L.C.
PORTABLE CONNECTIONS AFT.	D.B. No. 8	1	7-036.	6.9	24.	180	V.I.R.	L.C.A.+B.
POOP DECK FLOOD LIGHTS.	STAR. D.B. No. 9	1	7-044.	14	31	30	V.I.R.	L.C.
POOP DECK FLOOD LIGHTS	PORT. D.B. No. 10	1	7-044.	10.5	31	150	V.I.R.	L.C.



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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.
FOR R. & W. HAWTHORN, LESLIE & CO. LIMITED.

Chapman

Electrical Engineers.

Date 20/4/48.

COMPASSES.

Minimum distance between electric generators or motors and standard compass _____

Minimum distance between electric generators or motors and steering compass _____

The nearest cables to the compasses are as follows:—

A cable carrying 0.14 Ampères IN feet from standard compass REFLECTOR (FOR ILLUMINATION) feet from steering compass.

A cable carrying _____ Ampères _____ feet from standard compass _____ feet from steering compass.

A cable carrying _____ Ampères _____ feet from standard compass _____ 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 _____ degrees on _____ course in the case of the standard compass, and _____ degrees on _____ course in the case of the steering compass.

FOR R. & W. HAWTHORN, LESLIE & CO. LIMITED.

Chapman

Builder's Signature.

Date 20/4/48.

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 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 UNDER SPECIAL SURVEY.

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

ON COMPLETION THE ELECTRICAL EQUIPMENT WAS RUN UNDER WORKING CONDITIONS WITH SATISFACTORY RESULTS. THE PROTECTIVE DEVICES OF THE CIRCUIT BREAKERS WERE ADJUSTED AND OPERATED AND THE INSULATION RESISTANCE OF ALL CIRCUITS WAS MEASURED AND FOUND GOOD.

THE EQUIPMENT, IS, IN MY OPINION, SUITABLE FOR A CLASSED SHIP, INTENDED TO CARRY OIL HAVING A FLASH POINT OF LESS THAN 160°F.

Noted

[Signature]

21.5.48.

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

Total Capacity of Generators 120 Kilowatts.

The amount of Fee ... £ 42: 0 :
Travelling Expenses (if any) £ : :
When applied for, 29 APR 1948
When received, _____

[Signature]

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 5 NOV 1948

Assigned See minute on

fe marks opt