

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

3 NOV 1946

Date of writing Report... 6<sup>th</sup> NOVEMBER 1946 When handed in at Local Office... 11 (1946) Port of... GLASGOW

No. in Survey held at... GREENOCK Date, First Survey... 7<sup>th</sup> AUGUST Last Survey... 24<sup>th</sup> OCTOBER 1946  
Reg. Book. (Number of Visits... 4...)

88210 on the... M.V. NERITOPSIS Tons { Gross... 8231 Net... 4762

Built at... GLASGOW By whom built... MESSRS BLYTHSWOOD S.B.C. Yard No... 83 When built... 1946

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

Electrical Installation fitted by... MESSRS SUNDERLAND FORGE & ENGINEERING CO LTD Contract No... 83 When fitted... 1946

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... YES

Have plans been submitted and approved... YES System of Distribution... TWO WIRE Voltage of supply for Lighting... 110

Heating... Power... 110 Direct or Alternating Current, Lighting... D.C. Power... D.C. If Alternating Current state periodicity... 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... YES

Generators, are they compound wound... YES, are they level compounded under working conditions... YES, 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... 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... YES 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 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... 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... 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... YES

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 AMP. D.P. SWITCH AND FUSES

and for each outgoing circuit... 300 AMP 100 AMP OR 60 AMP D.P. SWITCH AND FUSES

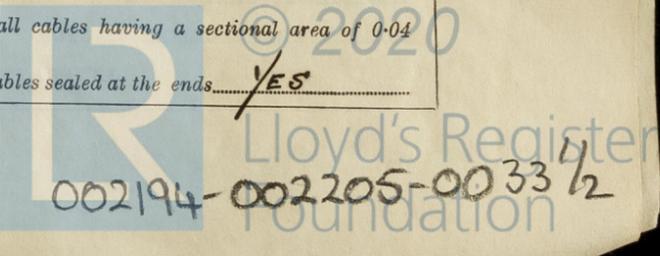
Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... YES Instruments on main switchboard... 2 ammeters... 2 voltmeters... synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection... 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... YES, 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

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... W.I., 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 0.04 square inch and above provided with soldering sockets... YES

Are paper insulated and varnished cambric insulated cables sealed at the ends... YES



with insulating compound  or waterproof insulating tape . 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.  Are cables laid under machines or floorplates  if so, are they adequately protected . Are cables in machinery spaces, galleys, laundries, etc., lead covered  or run in conduit . State how the cables are supported and protected. **MAINS: ALONG FORE + AFT GANGWAY L.C.A.B. CABLES CLIPPED TO STEEL TRAY**

**MACHINERY SPACE: L.C.A. (W.E.) CABLE CLIPPED TO STEELWORK**

**ACCOMMODATION: L.C. (W.E.) CABLE CLIPPED TO WOODWORK**

Are all lead sheaths, armoring and conduits effectually bonded and earthed.  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.  where unarmoured cables pass through beams, etc., are the holes effectually bushed  and with what material. **FIBRE** Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule.  Emergency Supply, state position  and method of control

Navigation Lamps, are they separately wired.  controlled by separate double pole switches  and fuses . Are the switches and fuses in a position accessible only to the officers on watch.  is an automatic indicator fitted . 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.  Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present.  if so, how are they protected.

**FLAMEPROOF FITTINGS INSTALLED IN CENTRE-CASTLE SPACE + PUMP ROOM FITTINGS COMPLY WITH RULE REQUIREMENTS**

and where are the controlling switches fitted. **IN ACCOMMODATION**, are all fittings suitably ventilated.

are all fittings and accessories constructed and installed as per Rule.  Searchlight Lamps, No. of  whether fixed or portable

are their fittings as per Rule.  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 free from damage from water, steam and oil.  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.

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.  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 the cartridge type.

are they of an approved type.  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.  Spare Gear, if the vessel is for open sea service have spares been provided as per Rule.  are they suitably stored in dry situations.  Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.	Fuel Used.	Flash Point of Fuel.
MAIN	1	30	NO	273	675	STEAM ENGINE	
	1	30	NO	273	675	I.C. 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	40	V.C.	L.C.A.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
MIDSHIP SECTION BOARD	1	37/103	209	385	600	V.C.	L.C.A.B.
ENGINE ROOM LT'S SECTION BOARD	1	7/064	425	75	120	V.C.	L.C.A.
CREW AFT SECTION BOARD	1	19/064	76.3	135	160	V.C.	L.C.A.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	35	75	144	V.C.	L.C.
NAVIGATION LIGHTS	1	7/044	21	31	132	W.E.	L.C.
LIGHTING AND HEATING							
ENGINE ROOM WORKSHOP BOARD	1	19/064	70	135	84	V.C.	L.C.A.
FORECASTLE LT'S D.B.	1	7/029	51	15	420	W.E.	L.C.A.B.
BRIDGE DECK LT'S D.B. PORT	1	7/044	18.9	31	120	W.E.	L.C.
BRIDGE DECK LT'S D.B. STBD	1	7/044	20	31	84	W.E.	L.C.
UPPER BRIDGE DECK LT'S D.B.	1	7/044	11.3	31	106	W.E.	L.C.
FOOP DECK LT'S D.B. PORT	1	7/044	11.8	31	162	W.E.	L.C.
UPPER DECK AFT D.B.	1	7/044	20.5	31	180	W.E.	L.C.
AFT CARGO D.B.	1	7/044	4	31	178	W.E.	L.C.
MIDSHIP CARGO D.B.	1	7/029	6	15	20	W.E.	L.C.
ENGINE ROOM LT'S D.B. PORT TOP	1	7/029	12	15	160	W.E.	L.C.A.
ENGINE ROOM LT'S D.B. STBD BOTTOM	1	7/029	8.5	15	120	W.E.	L.C.A.
SEARCHLIGHT	1	19/064	60	135	420	V.C.	L.C.A.B.
GYRO	1	7/029	10	15	72	W.E.	L.C.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
TURNING GEAR	1	10	1	19/064	80	135	130	V.C. L.C.A.
DRILL	1	2	1	7/044	26	31	54	W.E. L.C.A.
GRINDER	1	3	1	7/044	26	31	18	W.E. L.C.A.
LATHE	1	2	1	7/044	17.7	31	54	W.E. L.C.A.
OIL TURBINE	1	2	1	7/044	17.7	31	36	W.E. L.C.A.
OIL FUEL PUMP	1	1	1	7/064	9.1	10	202	W.E. L.C.A.
BOAT WINCHES AFT	2	2	1	7/044	16	31	260	W.E. L.C.
BOAT WINCHES FWD.	2	2	1	7/044	16	31	133	W.E. L.C.
Nº 1 THERMO FAN	1	4	1	7/064	35	75	40	V.C. L.C.
Nº 2 THERMO FAN	1	4	1	7/064	35	75	254	V.C. L.C.

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.

P.Pro. THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

Electrical Engineers. Date 6th November 1946

COMPASSES.

Minimum distance between electric generators or motors and standard compass THIRTY FEET

Minimum distance between electric generators or motors and steering compass TWENTY FOUR FEET

The nearest cables to the compasses are as follows:-

A cable carrying 21 Ampères 8 feet from standard compass 7 feet from steering compass.

A cable carrying 2 Ampères LED INTO feet from standard compass LED INTO 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 Nil degrees on Any course in the case of the standard compass, and Nil degrees on Any course in the case of the steering compass.

BLYTHWOOD ENGINEERING CO., LTD.

Builder's Signature. Date 9/11/46

SECRETARY

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

Plans. Are approved plans forwarded herewith No If not, state date of approval 5/2/46

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 vessel has been fitted on board under special survey, tested under working conditions and found satisfactory. The materials and workmanship are good.

Noted J.H. Gardiner 25/11/46

Total Capacity of Generators 60 Kilowatts.

The amount of Fee £ 28: 10: When applied for, 26/10/46 Travelling Expenses (if any) £ : ✓ : When received, 19

J.H. Gardiner Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 12 NOV 1946

Assigned

5m.4.38.—Transfer. (MADE AND PRINTED IN ENGLAND.)

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

SEE ACCOMPANYING MACHINERY REPORT.



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