

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 24 JUL 1946

Date of writing Report 22<sup>ND</sup> JUNE 1946 When handed in at Local Office 7<sup>TH</sup> JUNE 1946 Port of GLASGOW

No. in Survey held at GREENOCK Date, First Survey 14<sup>TH</sup> MARCH Last Survey 18<sup>TH</sup> JUNE 1946 (Number of Visits.....)

Reg. Book. 38947 on the 'NEOTHAUMA' Tons { Gross 8229 Net 4768

Built at GLASGOW By whom built BLYTHWOOD S.B. CO. LTD Yard No. 82 When built 1946

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

Electrical Installation fitted by SUNDERLAND FORGE & ENGINEERING CO. LTD Contract No. 82 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. -

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 - 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 - 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 - 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 - 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 - are the reversed current

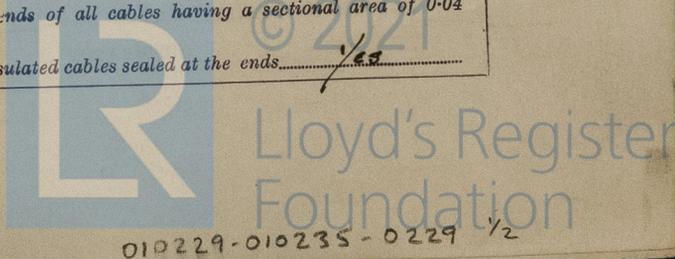
protection devices connected on the pole opposite to the equaliser connection - have they been tested under working conditions, and at what current

did they operate - 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.E. ✓

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 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 YES. 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.) CABLES CLIPPED TO STEELWORK  
ACCOMMODATION: L.C. (W.E.) CABLE CLIPPED TO WOODWORK

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

and method of control YES. 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 YES, are they adequately ventilated YES, what is the battery capacity in ampere hours YES.

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 YES.

FLAME PROOF FITTINGS INSTALLED IN CENTRE-CASTLE SPACE + PUMPROOM FITTINGS COMPLY WITH RULE REQUIREMENTS  
 and where are the controlling switches fitted IN ACCOMMODATION, are all fittings suitably ventilated YES, are all fittings and accessories constructed and installed as per Rule YES. 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 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 —. 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 YES. 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 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	1	30	110	273	675	STEAM ENGINE	—	
	1	30	110	273	675	I.C. ENGINE	OIL ABOVE 150° F	
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	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.			
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 (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							
MIDSHIP SECTION BOARD	1	37/103	209	335	600	V.C.	L.C.A.B.
ENGINE ROOM LTR SECTION BOARD	1	7/064	125	75	120	V.C.	L.C.A.
CREW AFT SECTION BOARD	1	19/064	768	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	7/064	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 LTR D.B.	1	7/029	51	15	420	W.E.	L.C.A.B.
BRIDGE DECK LTR D.B. PORT	1	7/044	189	31	120	W.E.	L.C.
BRIDGE DECK LTR D.B. STBD	1	7/044	20	31	84	W.E.	L.C.
UPPER BRIDGE DECK LTR D.B.	1	7/044	11.8	31	106	W.E.	L.C.
PROP DECK LTR 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 LTR D.B. PORT TOP	1	7/029	12	15	160	W.E.	L.C.A.
ENGINE ROOM LTR D.B. STBD BOTTOM	1	7/029	9.5	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 FURLENER	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.
N°1 THERMOTANK FAN	1	4	1	7/064	35	75	40	V.C.	L.C.
N°2 THERMOTANK 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 & ENG.CO.LTD.

Electrical Engineers.

Date 24th June 1946

J.C. Shanks

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.

Builder's Signature Date

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 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.

Notes thru 6.8.46

Total Capacity of Generators 60 Kilowatts.

The amount of Fee £ 28 : 10 : 10.4.46

Travelling Expenses (if any) £ : : When received. 19.....

W. Gardiner Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 23 JUL 1946

Assigned SEE ACCOMPANYING MACHINERY REPORT

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.)

