

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

23 MAR 1946

Received at London Office

Date of writing Report. 8th MARCH 1946. When handed in at Local Office. 19. 3. 46 Port of NEWCASTLE-ON-TYNE

No. in Survey held at HEBBURN-ON-TYNE Date, First Survey (1945) Dec. 11th Last Survey 22/2/1946
Reg. Book. (Number of Visits. 7)

28924. on the M.V. "NEAERA" Tons { Gross. 8250 1/2
Net. 4161

Built at HEBBURN-ON-TYNE By whom built HAWTHORN LESLIE & CO LTD. Yard No. 670 When built 1945

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

Electrical Installation fitted by HAWTHORN LESLIE & CO LTD. Contract No. - 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 DIRECT CURRENT Voltage of supply for Lighting 110

Heating. - Power 110 Direct or Alternating Current, Lighting DC Power DC 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. 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 AMP. DOUBLE

POLE SWITCH WITH A 300 AMP. FUSE ON EACH POLE.

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. 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

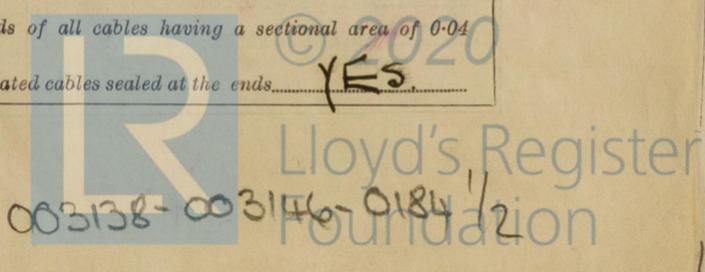
protection devices connected on the pole opposite to the equaliser connection. - have they been tested under working conditions, and at what current

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. -

state maximum fall of pressure between bus bars and any point under maximum load. 3.75, 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. NO, if so, are they adequately protected. — Are cables in machinery spaces, galleys, laundries, etc., lead covered. YES or run in conduit. — State how the cables are supported and protected. MAINS AND MACHINERY SPACES PYROTEX CABLE CLIPPED TO STEEL TRAY

— ACCOMMODATION LEAD COVERED CLIPPED TO BULKHEADS. ALONG FORE AND AFT GANWAYS CABLES RUN IN WOOD CLEATS BOLTED TO INVERTED CHANNEL PLATE.

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 effectually 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. NO, if so, how are they protected. —

— and where are the controlling switches fitted. —, are all fittings suitably ventilated. YES, are all fittings and accessories constructed and installed as per Rule. YES. Searchlight Lamps, No. of NONE, whether fixed or 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. —

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. —. 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	30	110	273	675	ONE STEAM ENGINE ONE DIESEL ENGINE	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 For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	30	1	0.25 sq. ins.	273	296	30	PYROTEX.	
" " 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 For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS ...							
SECTION Box No. 1 - ENGINE ROOM MOTORS	1	0.06 sq. ins.	91.6	135	132	PYROTEX	
MIDSHIP SWITCHBOARD	2	0.15	274	492	570	PYROTEX	
CREWS ACCOMMODATION LIGHTING POOP. S.B. 2	1	0.06	75.4	135	171	PYROTEX	
MIDSHIPS ACCOMMODATION S.B. 1.	1	0.06	104.2	135	39	Y.C.	L.C.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	0.06	30	135	135	Y.C.	L.C.
NAVIGATION LIGHTS	1	0.007	2.8	28	108	Y.C.	L.C.
LIGHTING AND HEATING D.B. No. 4. BRIDGE DEK. STAR.	1	0.01	21.5	42	48	Y.C.	L.C.
ENGINE & BOILER ROOMS LIGHTING. SECT. BOX 3	1	0.04	52.7	104	30	PYROTEX	
DISTRIBUTION Box No. 10 ENGINE ROOM	1	0.0045	8.7	15	135	PYROTEX	
" " No. 11 " "	1	0.007	9.8	28	210	PYROTEX	
" " No. 12 " "	1	0.0045	8.2	15	108	PYROTEX	
" " No. 13 " "	1	0.0045	10.9	15	180	PYROTEX	
" " No. 14 " "	1	0.0045	9.6	15	30	PYROTEX	
" " No. 15 " "	1	0.0045	5.5	15	210	PYROTEX	
" " No. 0 FORECASTLE	1	0.04	5.3	104	420	PYROTEX	
" " No. 1. CHART ROOM	1	0.0225	35.4	75	120	Y.C.	L.C.
" " No. 2 UPPER BRIDGE	1	0.01	15.2	42	90	Y.C.	L.C.
" " No. 3 BRIDGE DEK. PORT.	1	0.0225	25.1	75	81	Y.C.	L.C.
" " No. 8 PORTABLE CONNS. AFT.	1	0.0045	6.9	15	180	PYROTEX	
" " No. 9 CREWS ACCOM.	1	0.0225	32.1	75	195	PYROTEX	
SHORE CONNECTION.	1	0.15	—	246	168	PYROTEX	

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Sq. Ins.					
LATHE MOTOR.	1	3	1	0.007	25.6	28	60	PYROTEX.
DRILLING MACHINE MOTOR	1	2	1	0.007	17.6	28	60	PYROTEX.
GRINDING MACHINE MOTOR	1	3	1	0.007	24	28	60	PYROTEX.
LUB. OIL PURIFIER MOTOR	1	2	1	0.01	17.2	42	150	PYROTEX.
STANDBY FUEL OIL PUMP MOTOR	1	1	1	0.007	7.2	28	201	PYROTEX.
TURNING MOTOR	1	7.5	1	0.06	60	135	204	PYROTEX.
GRAVITY DAVIT MOTORS.	4	2	1	0.01	16.7	42	240	Y.C. L.C.
VENT. FAN AMIDSHIPS	1	4	1	0.0225	33	75	207	Y.C. L.C.
VENT. FAN AFT.	1	4	1	0.0225	33	75	266	PYROTEX.

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.

Electrical Engineers.

Date 18/3/46

COMPASSES.

Minimum distance between ~~electric generators or motors~~ and standard compass 17 FEET

Minimum distance between ~~electric generators or motors~~ and steering compass 15 FEET

The nearest cables to the compasses are as follows:—

A cable carrying 0.14 Ampères INSIDE feet from standard compass feet from steering compass.

A cable carrying 0.14 Ampères feet from standard compass INSIDE 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 EVERY course in the case of the

standard compass, and NIL degrees on EVERY course in the case of the steering compass.

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

Builder's Signature.

Date 18/3/46

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 VESSEL HAS BEEN INSTALLED IN CONFORMITY WITH THE SOCIETY'S RULES AND REGULATIONS AND THE ARRANGEMENTS ARE IN ACCORDANCE WITH OR EQUIVALENT TO THOSE SHOWN ON THE APPROVED PLANS. MATERIALS USED ARE OF GOOD QUALITY AND THE WORKMANSHIP IS SATISFACTORY. ON COMPLETION THE INSULATION RESISTANCE OF ALL CIRCUITS WAS GOOD AND THE GENERATORS OPERATED UNDER FULL LOAD CONDITIONS WITH SATISFACTORY RESULTS. THE EQUIPMENT AS INSTALLED, IS, IN MY OPINION, SUITABLE FOR A CLASSED VESSEL.

valid

Run 2.4.46

Total Capacity of Generators 60 Kilowatts.

The amount of Fee £ 28:10:0 When applied for, 18/3/46

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

R. Stone Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 12 APR 1946

Assigned See F.E. machy. rpt.

5m, 4.30.—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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