

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 28 SEP 1942

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office. 12/9/42 Port of NEWCASTLE ON TYNE

No. in Survey held at Hebburn Reg. Book. 37801 on the NUCULANA Date, First Survey 5th June 1942 Last Survey 21st Sept 1942 (Number of Visits.....10.....)

Built at Hebburn By whom built Hawthorn Leslie & Co Ltd Yard No. 649 When built 1942 Tons { Gross 8179 Net 4767

Owners Anglo Saxon Petroleum Co Ltd Port belonging to London

Electrical Installation fitted by Hawthorn Leslie & Co Ltd Contract No. When fitted 1942

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 No Power Yes Direct or Alternating Current, Lighting Direct Power Direct 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 Starboard side of engine room near main

switchboard, is the ventilation in way of generators satisfactory Yes are they clear of inflammable material No, 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 Starboard side of engine room

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 No, if situated near unprotected combustible material state distance from same horizontally and vertically, what insulation

material is used for the panels Pyralene, if of synthetic insulating material is it an Approved Type, 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 Double pole, double

throw quick break knife switches and double pole fuses

and for each outgoing circuit Double pole, double throw, quick break knife switches, and

double pole 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 Lamps connected to earth via fuses & switches

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

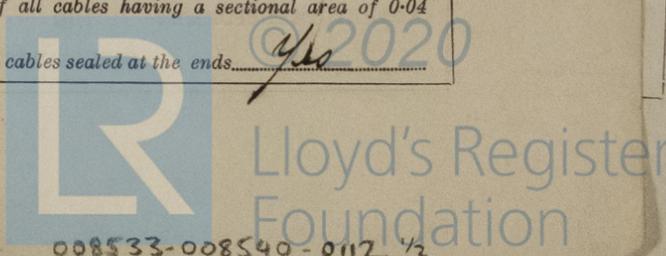
protection devices connected on the pole opposite to the equaliser connection, have they been tested under working conditions, and at what current

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 2, 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 Yes 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 In machinery spaces, centre castle jacking etc clipped to prepared steel trays or struts to steel work, in accommodation spaces lead covered wire clipped to wooden battens.

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 Lead. 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 In the centre castle for water tight fittings, pump rooms for tight fittings in welded steel join and where are the controlling switches fitted midships, are all fittings suitably ventilated Yes, are all fittings and accessories constructed and installed as per Rule Yes. Searchlight Lamps, No. of Yes, whether fixed or portable Yes, are their fittings as per Rule Yes. Heating and Cooking, is the general construction as per Rule Yes.

are the frames effectually earthed Yes, are heaters in the accommodation of the convection type Yes. 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 Yes and vertically Yes. 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 Yes. 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 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 No. 1	1	25	110	227	400	Diesel motor	Oil	Less than 150°
No. 2	1	25	110	227	400	Steam engine		
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 No. 1	25	1	37/072	227	246	32'	V.C.	L.C+A
" " EQUALISER No. 2	25	1	37/072	227	246	26'	V.C.	L.C+A
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 ...							
Sub main switchboard	1	27/072	238	385	600'	V.C.P.	LCA+B
Section on B. Bridge deck	1	19/064	78	83	24'	V.R.	LC
" B2 Upper deck aft	1	7/064	29	46	17'	V.R.	LC+A
" B2 Engine room lighting	1	19/052	54	64	30'	V.R.	LC+A
" " " " " "	1	9/064	23	23	213'	V.R.	LC+A
Shore Supply	1	27/072	-	248	168'	V.C.	LC+A

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/064	27	23	630'	V.R.	LC+A
NAVIGATION LIGHTS	1	7/064	23	31	660'	V.R.	LC+A
LIGHTING AND HEATING							
Chart room	1	7/064	27.5	46	120'	V.R.	LC+A
Upper bridge deck	1	7/064	12.5	46	69'	V.R.	LC+A
Bridge deck (port)	1	7/064	31	46	15'	V.R.	LC+A
" " (Starboard)	1	7/064	14.5	46	60'	V.R.	LC+A
Forecastle	1	19/052	5	64	405'	V.R.	LCA+B
Portable connections	1	7/064	13	46	27'	V.R.	LC+A
Upper deck aft (Starboard) portals	1	7/029	6	15	180'	V.R.	LC+A
" " (Port) Crew	1	7/064	17	31	145'	V.R.	LC+A
" " (Starboard)	1	7/064	12	31	24'	V.R.	LC+A
Prop	1	7/064	24	46	241'	V.R.	LC+A
Engine room No. 9	1	7/036	14.5	24	165'	V.R.	LC+A
" " " 10	1	7/029	3.5	15	120'	V.R.	LC+A
" " " 11	1	7/029	11	15	150'	V.R.	LC+A
" " " 12	1	7/029	8	15	75'	V.R.	LC+A
" " " 13	1	7/029	6	15	200'	V.R.	LC+A
" " " 14	1	7/029	5.5	15	80'	V.R.	LC+A
Search light (cable only)	1	19/052	64	64	680'	V.R.	LCA+B

ALL IMPORTANT MOTORS TO BE ENUMERATED.

	No.	B.H.P.							
Shipping motor	1	7 1/2	1	19/064	60	43	284'	V.R.	LC+A
Lathes	1	1 1/2	1	7/029	12	15	60'	V.R.	LC+A
Drill	1	2	1	7/036	16	24	60'	V.R.	LC+A
Grinder	1	3	1	7/044	25	31	60'	V.R.	LC+A
Lathe and punch	1	2	1	7/036	16	24	150'	V.R.	LC+A
Fuel pumps	1	1 1/2	1	7/029	14	15	150'	V.R.	LC+A
Ventilator (engine room)	1	4	1	7/064	33	46	300'	V.R.	LC+A
" " (bridge)	1	1/2	1	7/064	33	46	195'	V.R.	LC
Refrigerator	1	1/2	1	3/036	4	10	83'	V.R.	LC
Explosive compass	1	2	1	7/036	20	24	110'	V.R.	LC

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

Stephenson

Electrical Engineers.

Date 3rd September 1942

COMPASSES.

Minimum distance between electric generators or motors and standard compass 290'

Minimum distance between electric generators or motors and steering compass 280'

The nearest cables to the compasses are as follows:—

A cable carrying .14 Ampères inside feet from standard compass 10 feet from steering compass.

A cable carrying .14 Ampères 10 feet from standard compass inside feet from steering compass.

A cable carrying 27.5 Ampères 11 feet from standard compass 14 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

Stephenson

Builder's Signature.

Date 3rd September 1942

Is this installation a duplicate of a previous case Yes If so, state name of vessel NICANIA

Plans. Are approved plans forwarded herewith no If not, state date of approval 1/12/41

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 equipment

of this vessel was installed in accordance with the approved plans and the Society's rules. The materials used are of good quality and the workmanship is good. On completion the equipment was operated under working conditions with satisfactory results and the insulation resistance of all circuits and apparatus was measured and found good. This equipment is in my opinion suitable for a closed vessel.

*Noted
29/9/42.*

Total Capacity of Generators 50 Kilowatts.

The amount of Fee ... See etc £ 24: 10 :
When applied for, 21 SEP 1942
Travelling Expenses (if any) £ : :
When received, : : :
19

W. H. Cornell

Surveyor to Lloyd's Register of Shipping.

FRI. 2 OCT 1942

Committee's Minute

Assigned See Nwc. J.E. 100736

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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