

Rpt. 13.

No. 102524

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office.....18-12-1944 Port of NEWCASTLE-ON-TYNE

No. in Survey held at..... Reg. Book..... Date, First Survey (1943) Dec 10 Last Survey Dec 12th 19 44
(Number of Visits / 4)

on the M.V. "NAVICELLA" Tons { Gross 825.5
Net 471.5

Built at HEBBURN-ON-TYNE By whom built HAWTHORN, LESLIE & CO. LTD. Yard No. 663 When built 1944

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

Electrical Installation fitted by HAWTHORN, LESLIE & CO. LTD. Contract No. 663 When fitted 1944

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

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 ENGINE ROOM, STARBOARD SIDE

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 ENGINE ROOM, STARBOARD SIDE

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.....

DOUBLE POLE CHANGE-OVER KNIFE SWITCH & DOUBLE POLE FUSES FOR NO. 1 GENERATOR

DOUBLE POLE KNIFE SWITCH & DOUBLE POLE FUSES FOR NO. 2 GENERATOR

and for each outgoing circuit DOUBLE POLE CHANGE-OVER SWITCH & 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 EARTH LAMPS CONNECTED TO 'E' THROUGH SWITCHES AND FUSES

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

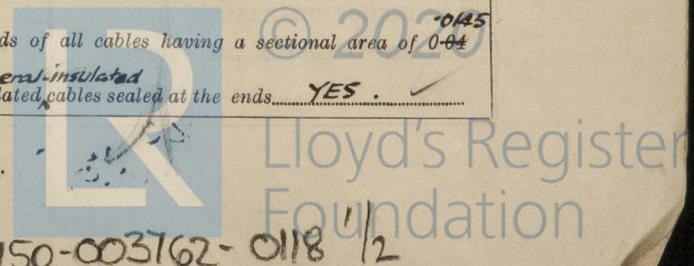
did they operate - Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YES

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 44-4V LIGHTING, 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

66V POWER and mineral-insulated



with insulating compound YES & 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. ALONG FORE & AFT GANGWAYS - CABLES RUN IN WOOD CLEATS BOLTED TO INVERTED CHANNEL PLATE

IN ACCOMMODATION - LEAD COVERED CABLES CLIPPED TO WOOD GROUNDS.
IN MACHINERY SPACES ETC. - CABLES CLIPPED TO TRAY PLATES.

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. -

- 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.

MOUNTED IN WELDED STEEL ENCLOSURES WITH GLAZED APERTURES.

and where are the controlling switches fitted. IN FUSE BOXES ON BRIDGE DECK., 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. 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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	30	110	272	675	SINGLE CYL. STEAM ENGINE		
	1	30	110	272	675	DIESEL	Above 150° F.	
EMERGENCY								
ROTAARY 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	2X 30	1	0.15 sq. in.	272	246	60	MINERAL INSULATED	COPPER COVERED.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTAARY TRANSFORMER: MOTOR								
" " GENERATOR								

See separate endorsement attached

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							<i>Pyralene</i>
ENGINE ROOM MOTORS - SECTION BOARD S.B.5	1	0.06 sq. in.	93.1	185	213	MINERAL	COPPER COVERED
ENGINE ROOM LIGHTING - SECTION BOARD S.B.4	1	0.04 "	58.2	104	30	MINERAL	COPPER COVERED
CREW ACCOM. LIGHTING - SECTION BOARD S.B.3	1	0.04 "	79.7	104	171	MINERAL	COPPER COVERED
MIDSHIP ACCOM. LIGHTING - SECTION BOARD S.B.2	1	19/064	113.5	135	39	V.C.	L.C.
W/T. & NAVIGATION (ALTERNATIVE SUPPLY) S.B.1	1	19/064	28.8	135	630	V.C.	L.C.A.
MIDSHIP SWITCHBOARD	1	0.2 sq. in.	276	296	570	MINERAL	COPPER COVERED

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/064	27	135	114	V.C.	L.C.	
NAVIGATION LIGHTS	1	7/036	1.8	28	144	V.C.	L.C.	
LIGHTING AND HEATING	(ALTERNATIVE SUPPLIES FROM SECTION BOARD S.B.1)							
ENGINE RM. LIGHTING DIST. FUSE BOARDS (5)	1	0.0045 sq. in.	93/65	15	30/210	MINERAL	COPPER COVERED	
" " " " " "	(1)	1	0.007 "	15.2	28	163	MINERAL	COPPER COVERED
CREW ACCOM. LIGHTING " " " "	(1)	1	7/044	18.5	42	15	V.C.	L.C.
" " " " " "	(1)	1	7/064	25.2	75	165	V.C.	L.C.
CREW ACCOM. LTG. BOOPDR " " " "	(1)	1	0.0225 sq. in.	36.7	75	195	MINERAL	COPPER COVERED
PORTABLE CONN. AFT " " " "	(1)	1	0.0045 "	5.8	18	180	MINERAL	COPPER COVERED
MIDSHIP ACCOM. LTG. " " " "	(3)	1	7/064	29.6/33.2	75	81/120	V.C.	L.C.
" " " " " "	(1)	1	7/044	21.3	42	18	V.C.	L.C.
FORECASTLE LIGHTING " " " "	(1)	1	0.0225 sq. in.	5.6	75	420	MINERAL	COPPER COVERED
PORTABLE CONN. MIDSHIPS " " " "	(1)	1	7/044	13.1	42	111	V.C.	L.C.
SHORE SUPPLY SWITCHBOARD TO CONN. BOX	1	0.15 sq. in.	250	246	168	MINERAL	COPPER COVERED	

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
LATHE	1	3	1	0.007 sq. in.	25.6	28	60	MINERAL	COPPER COVERED
DRILLING MACHINE	1	2	1	0.007 "	17.1	28	60	MINERAL	COPPER COVERED
GRINDING MACHINE	1	3	1	0.007 "	24	28	60	MINERAL	COPPER COVERED
LUBRICATING OIL PURIFIER	1	2	1	0.01 "	17.2	42	150	MINERAL	COPPER COVERED
STANDBY FUEL OIL SERVICE PUMP	1	1	1	0.007 "	9.2	28	150	MINERAL	COPPER COVERED
TURNING MOTOR	1	7.5	1	0.06 "	60	185	204	MINERAL	COPPER COVERED
VENT. FAN MOTOR - NAV. BRIDGE	1	4	1	7/064	32	75	207	V.C.	L.C.
VENT. FAN MOTOR - ENGINE CASING	1	4	1	0.0225 sq. in.	32	75	300	MINERAL	COPPER COVERED
5" EXH. FAN - REFRIG. MACH. COMP.	1	0.25	1	3/036	2	10	150	V.C.	L.C.
PANTRY EXH. FAN - NAV. BRIDGE	1	0.09	1	3/036	0.8	10	126	V.C.	L.C.
GRAVITY DAVIT MOTORS	4	2	1	7/044	18	42	168/240	V.C.	L.C.
DOMESTIC REFRIGERATOR	1	0.5	1	3/036	4	10	60	V.C.	L.C.
POTATO PEELING M/C	1	-	1	7/029	6	15	201	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.

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

Stephenson

Electrical Engineers.

Date 16/12/44

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 -14 Ampères inside feet from standard compass — feet from steering compass.

A cable carrying -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.

Stephenson

Builder's Signature.

Date 16/12/44

Is this installation a duplicate of a previous case NO. If so, state name of vessel —

Plans. Are approved plans forwarded herewith —. If not, state date of approval 23-5-44.

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith —

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 tests through the installation were good and the Generators operated on load and Governor tests with satisfactory results.

The Equipment, as installed, is, in my opinion, suitable for a Classed Vessel.

Total Capacity of Generators 60 Kilowatts.

The amount of Fee See £ 28 : 10 : — When applied for, 12-12-1944

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

Aldiment
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 5 JAN 1945

Assigned see minute on J.C. Rpt.

Form 430—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

