

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

5 JUL 1943

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office..... 9/6/43..... Port of Belfast

No. in Survey held at Belfast Date, First Survey 2nd February Last Survey 28 May 1943
Reg. Book. (Number of Visits.....)

on the No. 1. Navica Tons { Gross 8213
Net 4777

Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 1173 When built 1942-3

Owners Anglo Saxon Petroleum Co. Ltd. Port belonging to London

Electrical Installation fitted by Harland & Wolff Ltd. Contract No. 1173 When fitted 1943

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. No

Have plans been submitted and approved Yes System of Distribution Two Wire System 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 No 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 None 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 On Starboard Side of Motor 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 On Platform Starboard Side of Motor 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 Yes, if situated near unprotected combustible material state distance from same horizontally..... and vertically....., what insulation

material is used for the panels Simdamps, 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 300 Amp. Double Pole change over switch with 300 fuse on each pole.

and for each outgoing circuit Double pole change over knife switches with fuses on each pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 3

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 Two earth lamps with 2 way & off switch

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 No, if otherwise than as per Rule are they of an approved type Yes - Paper covered

state maximum fall of pressure between bus bars and any point under maximum load 5.71, 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 None



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 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 run in conduit. State how the cables are supported and protected. Pylotex Cable (Copper Sheathed) Main Runs are in Insulated Metal Channels under Deck & Aft Gangways.

A.M. Pumps are run in Channel closed with 3/8" thick Angle Iron on both sides of Deck & Aft Gangways. Duplicate cables & Accommodation Pumps are run under the protection of heavy single iron plates to Fuel Pipe Hoops. Cables in Machinery spaces are run in Pylotex. Cables in accommodations are clipped to Bulkheads. D/F Cables are R.P.S.B. & are protected by 1/2" M.S. Plate at Rollers & in stores etc. Pylotex Cable in Magazines is run in conduit.

Are all lead sheaths, armoring 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. Sheet 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. _____ Magazines the fittings are Admiralty Pattern 7007 & Magazine type. For Pump Rooms they are flameproof type.

and where are the controlling switches fitted. Outside Magazines & in Deck Accommodation Rooms 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. None. 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 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. Copper. 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	1	30	110	273	675	Steam Engine		
	1	30	110	273	675	4 Cylinder Diesel		
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	0.20"	273	296	72	Mineral Insulated	Copper Sheathed
" " 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 ...							
Section Box No. 2 (Accommod. Deck & Deck Boat Hoops)	1	0.060"	43	135	250	Mineral Insulated	Copper Covered
" " No. 3 (Engine Room & Workshop Motors)	1	0.10"	124	191	180	"	"
" " No. 4 (Aft Vent Fan & Engine Lighting)	1	0.060"	81	135	130	"	"
Midship Mastboard	2	0.150"	126	2(246)	570	"	"
D/E Circuit	1	0.150"	132	152	25	Rubber	L, S, H. B.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS & Navigation. (Section Box No. 1)	1	0.10"	27	191	660	Mineral Insulated	Copper Covered	1 core
NAVIGATION LIGHTS								
LIGHTING AND HEATING								
Dist. Box No. 1. Lighting Navig. Bridge	1	0.0225"	35	60	120	Mineral Insulated	Copper Covered	2 core
" " No. 2. " Accommod."	1	0.0045"	8	15	60	"	"	"
" " No. 3. " Engine Accommod."	1	0.0145"	39	45	12	"	"	"
" " No. 4. Portable Comms. Solid.	1	0.0045"	14	15	18	"	"	"
" " No. 5. Lighting Social.	1	0.0145"	4	45	360	"	"	"
" " No. 6. Portable Comms. Aft.	1	0.007"	10	25	55	"	"	"
" " No. 7. Lighting Accommod. Aft.	1	0.01"	22	35	200	"	"	"
" " No. 8. " " "	1	0.0225"	26	60	100	"	"	"
" " No. 9. " Motor Room.	1	0.007"	13	25	180	"	"	"
" " No. 10. " " "	1	0.0045"	8	15	40	"	"	"
" " No. 11. " " "	1	0.0045"	5	15	230	"	"	"
" " No. 12. " " "	1	0.007"	5	25	80	"	"	"
" " No. 13. " " "	1	0.0045"	7	15	180	"	"	"
" " No. 14. " " "	1	0.0045"	7	15	45	"	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	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.			
Turning Motor	1	10.0	1	0.040"	80	104	90	Mineral Insulated	Copper Covered
Grinder	1	3.0	1	0.0225"	26	56	88	"	"
Drill	1	3.0	1	0.01	26	31.5	32	"	"
Lathe	1	1.5	1	0.0225"	14	56	60	"	"
Lub. Oil Purifier	1	2.5	1	0.0145"	21.3	41	45	"	"
Fuel Oil Pump	1	1.75	1	0.01	15.9	31.5	55	"	"
Accommod. Vent Fan Solid	1	4.0	1	0.0225"	35	56	70	"	"
" " " Aft	1	4.0	1	0.0225"	35	56	180	"	"

all cables Pylotex.

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.



Electrical Engineers. Date 28-5-43

COMPASSES.

Minimum distance between electric generators or motors and standard compass.....

Minimum distance between electric generators or motors and steering compass.....

The nearest cables to the compasses are as follows:—

A cable carrying 0.13 Ampères On feet from standard compass 8 feet from steering compass.

A cable carrying 0.13 Ampères 8 feet from standard compass On feet from steering compass.

A cable carrying 24 Ampères 8 feet from standard compass 10 feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power Yes & Calibrated with D/G on & off

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 28.5.43

Is this installation a duplicate of a previous case no state name of vessel.....

Plans. Are approved plans forwarded herewith yes 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 fitted on board under Special Survey and in accordance with the approved plans.

The materials and workmanship are good and the installation has been tested under full working conditions with satisfactory results

Noted
L.S.
6/7/43

Total Capacity of Generators 60 Kilowatts.

The amount of Fee ... £ 28 : 10 : 19/6/1943 When applied for,
See Belfast 14-5-0
See Liverpool 14-5-0 Travelling Expenses (if any) £ : : When received.
 : : : : : 19.....

Asseffus. R. Shaw.
 Surveyor to Lloyd's Register of Shipping.

TUES. 6 JUL 1943

Committee's Minute
 Assigned See fe made etc

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.)

