

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report ..... 19 .. When handed in at Local Office 11-1-32 Port of Belfast.

No. in Survey held at Belfast. Date, First Survey 9<sup>th</sup> Sept Last Survey 22<sup>nd</sup> Dec 1931  
Reg. Book. (Number of Visits.....)

18324 on the Twin Steel S. "CONUS" Tons { Gross 8132  
Net

Built at Belfast. By whom built Workman, Black (1928) Ltd. Yard No. 518 When built 1931.

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

Electric Light Installation fitted by The Sunderland Forge & Eng Co Ltd. Contract No. When fitted 1931.

Is the Vessel fitted for carrying Petroleum in bulk Yes.

System of Distribution Double Wire, Distribution Box. ✓

Pressure of supply for Lighting 110 ✓ volts, Heating — volts, Power 110 ✓ volts.

Direct or Alternating Current, Lighting Direct ✓ Power Direct ✓

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes ✓

Generators, do they comply with the requirements regarding rating Yes, are they compound wound Yes

are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel, is an adjustable regulating resistance fitted in series with each shunt field Yes

Are all terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes

Position of Generators Main Engine Room Starboard Side ✓

is the ventilation in way of the generators satisfactory Yes, are they clear of all inflammable material Yes

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators and, are the generators protected from mechanical injury and damage from water, steam or oil Yes ✓

are their axes of rotation fore and aft Yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes, are the prime movers and their respective generators in metallic contact

Main Switch Boards, where placed Main Engine Room Starboard Side. ✓

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes ✓

are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards and

are they constructed wholly of durable, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance Yes

if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes

and is the frame effectively earthed Yes. Are the fittings as per Rule regarding: — spacing or shielding of live parts

Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibus bars Yes

individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches Yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches. Double pole switches + fuses for main generator + Double pole change-over switches + fuses for each outgoing circuit. ✓

Instruments on main switchboard two ✓ ammeters two ✓ voltmeters synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth lamp. ✓

switch + fuse on each pole

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes

**Cables:** Single, twin, concentric, or multicore Single are the cables insulated and protected as per Tables IV or V of the Rules yes

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load 4.9 Volts. (5.3 Rule)

**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes

**Paper Insulated Cables.** If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound yes

**Cable Runs,** are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage yes

**Support and Protection of Cables,** state how the cables are supported and protected Lead covered, Armoured, & Braided cables run in Screwed Galv. Iron Pipe made watertight.

If cables are run in wood casings, are the casings and caps secured by screws yes, are the cap screws of brass yes, are the cables run in separate grooves yes. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII yes

**Refrigerated Chambers,** if lights are fitted, are the cables and fittings in accordance with the special requirements yes

**Joints in Cables,** state if any, and how made, insulated, and protected none made

**Watertight Glands and Deck Tubes,** are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes

**Bushes in Beams and Non-watertight Partitions,** where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed yes state the material of which the bushes are made Lead

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas yes, are their connections made as per Rule yes

**Alternative Lighting,** are the groups of lights in the propelling machinery space arranged as per Rule yes

**Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven yes

**Navigation Lamps,** are these separately wired yes, controlled by separate switch and separate fuses yes, are the fuses double pole yes, are the switches and fuses grouped in a position accessible only to the officers on watch yes, has each navigation lamp an automatic indicator as per Rule yes

**Secondary Batteries,** are they constructed and fitted as per Rule yes

**Fittings,** are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight yes, are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected yes

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Special Testlight Pump Room fitting in Galv Iron Pipe made gastight.

where are the controlling switches situated outside pump room

**Searchlight Lamps, No. of** 1, whether fixed or portable yes, are their fittings as per Rule yes

**Arc Lamps,** other than searchlight lamps, No. of 1, are their live parts insulated from the frame or case yes, are their fittings as per Rule yes

**Motors,** are their working parts readily accessible yes, are the coils self-contained and readily removable for replacement yes, are the brushes, brush holders, terminals and lubricating arrangements as per Rule yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material yes, are they protected from mechanical injury and damage from water, steam or oil yes, are their axes of rotation fore and aft yes, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type yes, if not of this type, state distance of the combustible material horizontally or vertically above the motors yes

**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule yes

**Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule yes

**Ships carrying Oil having a Flash Point less than 150° F.** Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings yes

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office 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	2	16	110	146	390	1/2 Steam Engine 1/2 Kromhout Engine	✓		
AUXILIARY									
EMERGENCY									
ROTARY TRANSFORMER									

  

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	100	19	.083	146	172	50.	Hamisted bamboo	L. C. Q+B
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM									
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
SHORE CONNECTION	1	.25	37	.043	1460	309	130	Y. C.	L. C. Q+B
MIDSHIP & FORWARD LTG.	1	.04	19	.052	41.6	64	530	Y. I. R.	L. C. Q+B
CARGO LTG.	1	.04	19	.052	46.5	64	36	Y. I. R.	do
ENG. RM AUXILIARIES	1	.04	19	.052	58.0	64	20	Y. I. R.	do
GREEN AFT LTG.	1	.04	19	.052	45.8	64	36	Y. I. R.	do
ACCOMMODATION									
WIRELESS	1	.01	7	.044	20	31	224	Y. I. R.	L. C. Q+B
SEARCHLIGHT									
MASTHEAD LIGHT	1	.002	3	.029	.39	7.8	410	Y. I. R.	do
SIDE LIGHTS	1	.002	3	.029	.38	7.8	80	Y. I. R.	do
COMPASS LIGHTS									
POOP LIGHTS									
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

  

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP	2	1	.075	13	.072	97	97	120	Y. I. R.	L. C. Q+B
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMP	1	1	.01	7	.044	28	31	225	do	do
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										
Handing machine	1	1	.01	7	.044	26.7	31	135	Y. I. R.	L. C. Q+B
Drilling	1	1	.007	7	.036	18	24	135	do	do
Saw	1	1	.007	7	.036	18	24	135	do	do

All Conductors are of annealed copper conforming to British Standard Specification No. 7.  
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.  
 The foregoing is a correct description.

p.pro. THE SUNDERLAND FORGE & ENG.CO.LTD., Electrical Engineers. Date 7.1.32.

COMPASSES.

Distance between electric generators or motors and standard compass 216 feet ✓  
 Distance between electric generators or motors and steering compass 216 feet. ✓

The nearest cables to the compasses are as follows:—

A cable carrying 4.5 Ampères 20 feet from standard compass 16 feet from steering compass.  
 A cable carrying .19 Ampères 6 feet from standard compass led into ~~foot from~~ steering compass.  
 A cable carrying .19 Ampères led into ~~foot from~~ standard compass 6 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 all courses in the case of the standard compass, and nil degrees on all courses in the case of the steering compass.

WORKMAN CLARK (1928) LIMITED.  
 F. Cunningham Builder's Signature. Date

Is this installation a duplicate of a previous case Yes If so, state name of vessel "CORBIS."

General Remarks (State quality of workmanship, opinions as to class, &c.)

This installation has been fitted on the vessel under special survey. The materials and workmanship are sound and good. An insulation resistance test has been applied and the installation tried out under working conditions with satisfactory results. In my opinion the vessel is eligible for notation "Electric Light."

It is submitted that this vessel is eligible for THE RECORD. Elec. Light  
 CWJ  
 21.1.32

Total Capacity of Generators 32 Kilowatts.

The amount of Fee ... £ 23 : 0 :  
 Travelling Expenses (if any) £ : :  
 When applied for, 11<sup>th</sup> Jan 1932  
 When received, 21.1.1932

John K. Williams.  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned Elec. Lt.

Im. 9.30.—Transfer.  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

