

Rpt. 13.

No 86364

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) - 7 NOV 1930

Received at London Office

Date of writing Report

19

When handed in at Local Office

6/11/30

Port of NEWCASTLE ON TYNE

No. in Survey held at

NEWCASTLE

Date, First Survey

2 July

Last Survey

14 Oct

1930

Reg. Book.

91458

on the

M.V. MORGENEN

(Number of Visits.....10.....)

Tons

Gross

Net

Built at

WALSSEND ON TYNE

By whom built

SWAN HUNTER & W.R. LTD

Yard No. 1384

When built 1930

Owners

A/S TANKTRANSPORT

Port belonging to

TONGSBERG

Electric Light Installation fitted by

CAMPBELL & ISHERWOOD LTD

Contract No. 1384

When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk

YES

System of Distribution

DOUBLE WIRE

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

NO.

, 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

Are the lubricating arrangements of the generators as per Rule

YES

Position of Generators

PORT SIDE FORWARD OF ENGINE ROOM, LOWER PLATFORM.

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

YES

Main Switch Boards, where placed

PORT SIDE OF ENGINE ROOM ADJACENT TO DYNAMOS.

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

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

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

SWITCH & DOUBLE POLE FUSES FOR EACH GENERATOR.

Instruments on main switchboard

2

ammeters

2

voltmeters

synchronising device for paralleling purposes.

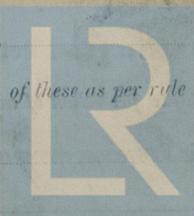
Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

EARTH LAMPS.

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



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011099-011109-0078 1/2

Cables: Single, twin, concentric, or multicore SINGLE & TWIN are the cables insulated and protected as per Tables IV or V of the Rules YES

Fail of Pressure, state maximum between bus bars and any point of the installation under maximum load 5 VOLTS

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

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 IN ACCOMMODATION. LEAD COVERED ARMOURD & BRAIDED IN ENGINE ROOM. LEAD COVERED & BRAIDED IN PIPE ALONG DECK.

If cables are run in wood casings, are the casings and caps secured by screws, are the cap screws of brass, are the cables run in separate grooves. If armourd 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 7.044 CABLE FITTED WITH SWEATING LUG & ATTACHED TO STEEL-WORK WITH 3/8" TAP SCREW.

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

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

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

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected GAS TIGHT FITTINGS

how are the cables led

GAS TIGHT PIPE.

where are the controlling switches situated IN SALOON ALLEYWAY

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

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

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

if not of this type, state distance of the combustible material horizontally or vertically above the motors and

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

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

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	12	110	109	500	S.C. STEAM ENGINE.		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

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	.1	19	.083	109	118	20	V.I.R.	LEAD COVERED & BRAIDED.	
EQUALISER CONNECTIONS										
AUXILIARY GENERATOR										
EMERGENCY GENERATOR										
ROTARY TRANSFORMER MOTOR GENERATOR										
ENGINE ROOM										
BOILER ROOM										
AUXILIARY SWITCHBOARDS										
ACCOMMODATION	1	.06	19	.064	39.7	83	448	V.I.R.	LEAD COVERED & BRAIDED.	
ACCOMMODATION AFT.	1	.0146	7	.052	24.3	37	70	V.I.R.	LEAD COVERED & BRAIDED.	
ENGINE ROOM	1	.0104	7	.044	15	31	20	V.I.R.	LEAD COVERED & BRAIDED.	
WIRELESS	1	.0104	7	.044	15	31	500	V.I.R.	LEAD COVERED & BRAIDED	
SEARCHLIGHT										
MASTHEAD LIGHT	1	.002	3	.029	4	7.8	450	V.I.R.	LEAD COVERED & BRAIDED.	
SIDE LIGHTS	1	.002	3	.029	4	7.8	60	V.I.R.	LEAD COVERED & BRAIDED.	
COMPASS LIGHTS	1	.002	3	.029	4	7.8	30	V.I.R.	LEAD COVERED & BRAIDED.	
POOP LIGHTS	1	.002	3	.029	4	7.8	500	V.I.R.	LEAD COVERED & BRAIDED.	
CARGO LIGHTS	1	.0017	40	.0076	2.4	5.0	120	V.I.R.	CABTYRE SHEATHED.	
ARC LAMPS										
HEATERS										

MOTOR CONDUCTORS.

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										
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR	1	1	.0146	7	.052	34	37	120	V.I.R.	LEAD COVERED, ARMOURD & BRAIDED.
VENTILATING FANS										
SHARPLAS	1	1	.007	7	.036	21	24	120	V.I.R.	LEAD COVERED, ARMOURD & BRAIDED.
CRANE	1	1	.0225	7	.064	43	46	90	V.I.R.	LEAD COVERED, ARMOURD & BRAIDED.

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 **CAMPBELL & ISHERWOOD, LTD.**

*Jhos Meade*

Electrical Engineers.

Date *23rd Oct 1930*

**COMPASSES.**

Distance between electric generators or motors and standard compass *215 FEET*

Distance between electric generators or motors and steering compass *220 FEET.*

The nearest cables to the compasses are as follows:—

A cable carrying *.4* Ampères *1* feet from standard compass *1* feet from steering compass.

A cable carrying *4.6* Ampères *8* feet from standard compass *12* 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 \_\_\_\_\_

The maximum deviation due to electric currents was found to be *nil* degrees on \_\_\_\_\_ *each* course in the case of the standard compass, and *nil* degrees on *each* course in the case of the steering compass.

FOR **OWAN, HUNTER & WIDHAM RICHARDSON, LTD.**

*G. J. Tweedy*

Builder's Signature.

Date *14 November 1930*

Is this installation a duplicate of a previous case \_\_\_\_\_ If so, state name of vessel \_\_\_\_\_

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

*This installation has been fitted under special survey and has been tested under full working conditions. The materials and workmanship were found good and sound.*

*It is submitted that this vessel is eligible for THE RECORD. Etec. Light.*

*(Signature)*  
*11/11/30*

Total Capacity of Generators *24* Kilowatts.

The amount of Fee ... £ *19 : 10 : 0* When applied for, *24.10.1930*

Travelling Expenses (if any) £ : : *27.10.1930* When received.

*P. C. Clayton.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*Elec Lt*

Assigned



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Im. 11.20. - Transfer. (The Shareholders are requested not to write on or below the space for Committee's Minutes.)