

Rpt. 13.

No. 30483

**REPORT ON ELECTRIC FITTINGS.**

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 27. 9. 1930 When handed in at Local Office 21 OCT. 1930 Received at London Office 22 OCT. 1930

Port of SUNDERLAND

No. in Survey held at SUNDERLAND  
Reg. Book.Date, First Survey Aug 25 Last Survey 13 Oct 1930  
(Number of Visits.....)

92954 on the M.V. VIGDIS

Tons { Gross 6094  
Net 3624

Built at SUNDERLAND By whom built J.L. THOMPSON &amp; SONS LTD Yard No. 571 When built 1930

Owners MESSRS BRUNN &amp; V.D. LIPPE Port belonging to TONBERG.

Electric Light Installation fitted by MESSRS SUNDERLAND FORGE &amp; ENG. CO. Contract No. 571 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 YES, 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**

ENGINE ROOM.

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 ENGINE ROOM.

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 micanile 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

I.P. CIRCUIT BREAKERS FOR GENERATORS (5<sup>th</sup> POLE TO ACT AS EQUALISER) D.P. SWITCHES & ZED TYPE FUSES FOR EACH CIRCUIT.

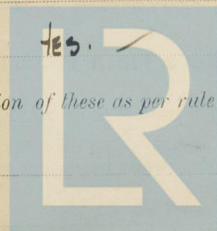
Instruments on main switchboard 3 ammeters 3 voltmeters 222 synchronising device for paralleling purposes.

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

LAMPS CONNECTED THROUGH SWITCH &amp; FUSE ON EACH POLE TO EARTH.

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.



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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 5.0 v.b.  
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, ARMoured, DRAINED CABLES RUN ALONG FORE & AFT GANGWAYS IN W.L. PIPES.

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 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 -

Joints in Cables, state if any, and how made, insulated, and protected NONE.

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 & FIBRE.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas -

are their connections made as per Rule -

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 NONE.

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

SPECIAL GAS-TIGHT PUMP ROOM FITTINGS.

IN GALV. W.L. PIPES OUTSIDE PUMP ROOM.

where are the controlling switches situated IN ACCOMMODATION AT DIS. BOARD.

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

Are 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 Yes, 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 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	65	110	590	275	Diesel		
AUXILIARY ...	1	10	110	90	380	OPEN TYPE S.F.E. STEAM ENGINE.		
EMERGENCY ...								
ROTARY TRANSFORMER								

## GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		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 ...	2	15	37	.093	590	275	30	VARN CAMBRIC	L.C.B.
EQUALISER CONNECTIONS ...	1	2.5	37	.093	225	343	30	"	"
AUXILIARY GENERATOR ...	1	.075	19	.072	90	97	40	RUBBER	L.C.A.B.
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER MOTOR GENERATOR ...									
ENGINE ROOM ...									
BOILER ROOM ...	1	.01	7	.044	20	31	40	"	"
AUXILIARY SWITCHBOARDS ...									
ENGINE ROOM MOTORS	1	.06	19	.064	72	83	50	"	"
NAVIGATION	1	.01	7	.044	8	31	500	"	"
ACCOMMODATION ...									
SALOON & FORWARD	1	.04	19	.052	23	64	480	"	"
AFT ACCOMMODATION	1	.01	7	.044	21.8	31	200	"	"
WIRELESS ...	1	.0225	7	.064	23.6	46	500	"	"
SEARCHLIGHT ...									
MASTHEAD LIGHT ...									
SIDE LIGHTS ...									
COMPASS LIGHTS ...									
POOP LIGHTS ...									
CARGO LIGHTS ...	1	.0225	7	.064	7.5	46	480	"	"
ARC LAMPS ...									
HEATERS ...									

## MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		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 ...	1	1	.04	19	.052	64	64	60	RUBBER	L.C.A.B.
GENERAL SERVICE PUMP ...										
EMERGENCY BILGE PUMP ...										
SANITARY PUMP ...										
CIRC. SEA WATER PUMPS ...	1	1	.2	37	.083	256	266	100	VARN CAMBRIC	L.C.A.B.
CIRC. FRESH WATER PUMPS ...										
AIR COMPRESSOR ...	1	1	.15	37	.072	200	222	100	"	"
JACKET FRESH WATER PUMP ...	1	1	.1	19	.083	168	172	100	"	"
ENGINE TURNING GEAR ...										
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS ...	1	1	.0145	7	.052	36	37	100	RUBBER	"
OIL FUEL TRANSFER PUMP ...										
WINDLASS ...										
WINCHES, FORWARD ...										
WINCHES, AFT ...										
STEERING GEAR—										
(a) MOTOR GENERATOR ...	1	1	.15	37	.072	185	222	220	VARN CAMBRIC	"
(b) MAIN MOTOR ...	1	1	.15	37	.072	200	222	20	"	"
WORKSHOP MOTOR ...										
VENTILATING FANS ...										
Nº 1 REFRIG. MOTORS	1	1	.075	19	.072	95	97	100	RUBBER	"
Nº 2 " "	2	1	.0045	7	.029	13.5	18.2	100	"	"
CRANE	1	1	.04	19	.052	64	64	200	"	"



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.

*A. J. Gurney*  
p.pcc. THE SUNDERLAND FORGE & ENGINEERING CO. LTD. Electrical Engineers. Date 8.10.30.

#### COMPASSES.

Distance between electric generators or motors and standard compass 206 FEET.

Distance between electric generators or motors and steering compass 200 FEET.

The nearest cables to the compasses are as follows:—

A cable carrying 8 Ampères 8 feet from standard compass 6 feet from steering compass.

A cable carrying Ampères feet from standard compass 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 ANY course in the case of the standard compass, and NIL degrees on ANY course in the case of the steering compass.

JOSEPH L. THOMPSON & SONS, LIMITED,

*M. J. Thompson*  
Chairman

Builder's Signature.

Date 17<sup>th</sup> Oct. 1930

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

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

This installation has been fitted on board under special survey and has been tested under full working conditions and found satisfactory.

The materials and workmanship were good and sound.

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

*C. C. Clayton*  
27/10/30

Total Capacity of Generators 140 Kilowatts.

The amount of Fee ... £ 33 : 10 : 0 When applied for, 8 Oct 1930

Travelling Expenses (if any) £ : : When received, 10 Oct 1930

*C. C. Clayton*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

*Elec Lt*



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