

Rpt. 13.

No. 30472

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 22 OCT. 1930

Date of writing Report 24. 9. 1930 When handed in at Local Office 21 OCT. 1930 Port of SUNDERLAND.

No. in Survey held at SUNDERLAND. Date, First Survey 20 Aug Last Survey 1st Oct 1930
Reg. Book.86453. on the M.V. THORSHOLM. Tons { Gross 6748
Net 4046

Built at SUNDERLAND. By whom built SIR. J. LAING & SON. Yard No. 409. When built 1930

Owners A/S. THORDANL. Port belonging to

Electric Light Installation fitted by SUNDERLAND FORGE & ENG CO. Contract No. 409 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 YES.

with mica or micanite 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.

T.P. CIRCUIT BREAKERS FOR GENERATORS (3rd POLE TO ACT AS EQUALISER) D.P. SWITCHES & 2 1/2" TYPE FUSES FOR EACH CIRCUIT.

Instruments on main switchboard 3 ammeters 3 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

LAMPS CONNECTED THRO SWITCH & 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 multivore. 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 lb.

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 & BRAIDED CABLES RUN ALONG FORE & AFT GANGWAYS IN W.I. 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.

how are the cables led

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

where are the controlling switches situated IN ACCOMMODATION 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	570	275	Diesel		
AUXILIARY ...	1	10	110	90	380	OPEN TYPE S.F.D.E. STEAM ENGINE.		
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 ...	2	.5	37	.073	570	686	30	VARN. CAMBRIE	LEAB.
EQUALISER CONNECTIONS ...	1	.25	37	.073	275	345	30	"	"
AUXILIARY GENERATOR ...	1	.075	19	.072	90	97	40	RUBBER.	LEAB.
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	"	"
AFR. ACCOMMOD.	1	.01	7	.044	21.8	31	300	"	"
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. 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 ...	1	1	.04	19	.052	64	64	60	RUBBER	LEAB.
GENERAL SERVICE PUMP ...										
EMERGENCY BILGE PUMP ...										
SANITARY PUMP ...										
CIRC. SEA WATER PUMPS ...	1	1	.2	37	.093	256	276	100	VARN. CAMBRIE	LEAB.
CIRC. FRESH WATER PUMPS ...										
AIR COMPRESSOR ...	1	1	.15	37	.072	200	246	100	"	"
FRESH WATER PUMP ...	1	1	.1	19	.083	168	191	100	"	"
ENGINE TURNING GEAR ...										
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS ...	1	1	.045	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	246	220	VARN. CAMBRIE	LEAB.
(b) MAIN MOTOR ...	1	1	.15	37	.072	200	246	20	"	"
WORKSHOP MOTOR ...										
VENTILATING FANS ...										
Nº 1 REFRIG. MOTORS ...	1	1	.075	19	.072	95	97	100	RUBBER	"
Nº 2 ...	2	1	.0045	7	.024	135	132	100	"	"
CRANE ...	1	1	.04	19	.052	64	64	200	"	"

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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.

J. J. Lurney
p.pro. THE SUNDERLAND FORGE & ENG.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.

SIR JAMES LAING & SONS, LIMITED.

W. Richardson

Builder's Signature.

Date 17/10/30.

SECRETARY.

Is this installation a duplicate of a previous case Yes If so, state name of vessel M.V. VIGDIS

General Remarks (State quality of workmanship, opinions as to class, &c. This installation has been fitted on board under special survey. Tested under full working conditions and found satisfactory. The materials & workmanship were good and sound.

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

27/10/30

Total Capacity of Generators 140 Kilowatts.

The amount of Fee £ 33 : 10 : 0 When applied for, 1 Oct 19 30

Travelling Expenses (if any) £ : : 7 Oct 19 30 Now.

L. C. Clayton

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

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