

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

23 JUN 1931

Date of writing Report 11th June 1931 When handed in at Local Office 19 Port of HAMBURG
 No. in Survey held at KIEL Date, First Survey 16th Febr. Last Survey 21st May 1931
 Reg. Book. on the STEEL TWIN S.C. TANKER FJORDAAS (Number of Visits 15)
 Tons { Gross 7361
 Net 4360
 Built at KIEL By whom built DEUTSCHE WERKE KIEL A.G Yard No. 227 When built 1931
 Owners AGDESIDENS REDERI A/S Port belonging to ARENDAAL
 Electric Light Installation fitted by DEUTSCHE WERKE KIEL A.G Contract No. _____ When fitted 1931

System of Distribution Tur Wire System ✓ An additional Steam set 22kw
Pressure of supply for Lighting 110 volts, Heating _____, Power 110 volts, filled 12.36 110 volts for parallel
Direct or Alternating Current, Lighting direct ✓, Power direct ✓ both the original sets
 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 in the 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 in the engine room aft part ✓
 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 marble ✓, 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 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 For each generator a double pole linked switch and a fuse on each pole; for each outgoing circuit a double pole change over switch and a fuse on each pole ✓
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 1 Voltmeter with 1000 scale ✓
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 ✓

Handwritten notes:
 An additional Steam set 22kw
 filled 12.36 110 volts for parallel
 both the original sets
 (Robt 2/27/37)



The German Standards have been applied generally

Cables: Single, twin, concentric, or multicore. *Single, twin, concentric, or multicore* the cables insulated and protected as per Tables IV or V of the Rules *about 3 Volts*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *about 3 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 *no paper insulated cables*

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 *armoured cables secured by metal clips*

If cables are run in rood 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 *yes*

Joints in Cables, state if any, and how made, insulated, and protected *watertight joint boxes*

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 bushes*

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 *none*

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 *in pump rooms*

lamps fitted in gastight bollings, how are the cables led *cables led in gastight tubing*

where are the controlling switches situated *in the office amidship*

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

High Volt Lamps *—*

Arc Lamps, other than searchlight lamps, No. of *12*, 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 *—*

—, 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 *none*

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			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.			Fuel Used.	Flash Point of Fuel.
MAIN	1	15	115	130	350	Steam Engine		
AUXILIARY	1	15	115	130	800	Diesel motor	gas oil	above 150° F
EMERGENCY	1	22				Steam Engine		
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR (Steam)	2	95	37	1.81	130	15	RUBBER	LEAD COVERED & ARMOURED
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR (Diesel)	2	95	37	1.81	130	35		
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	40	15	3	35			
	BOILER ROOM								
	ACCOMMODATION aft	2	16	19	1.04	40	42		
	Setrom deck	2	25	19	1.3	26	200		
	amidship	2	25	19	1.3	42	160		
	Navigation machinery	2	25	1	1.78	2.5	220		
	port caske	2	4	19	0.62	10	250		
	WIRELESS	2	10	19	0.82	15	220		
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	1.5	1	1.38	0.4	125		
	SIDE LIGHTS	2	1.5	1	1.38	0.4	36		
	COMPASS LIGHTS	2	1.5	1	1.38	0.2	10		
	POOP LIGHTS	2	1.5	1	1.38	0.4	105		
	CARGO LIGHTS								
	HIGH WATT LAMPS	2	2.5	1	1.38	7	130		
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP							RUBBER	LEAD COVERED & ARMOURED
	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	2	16	19	1.04	40	40		
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	1	4	19	0.52	16.5	22		
	OIL FUEL SEPARATING PUMP	2	4	19	0.52	20.6	44		
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR	1	6	19	0.64	25	50		
	VENTILATING FANS	2	2.5	1	1.78	4	50		
	GALLEY FAN	1	2.5	1	1.78	10	40		

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.

The Builders are the Electrical Engineers. Date _____

COMPASSES.

Distance between electric generators or motors and standard compass } about 8 m
 Distance between electric generators or motors and steering compass }

The nearest cables to the compasses are as follows:—

A cable carrying 0.3 Ampères close to feet from standard compass close to feet from steering compass.

A cable carrying 0.3 Ampères close to feet from standard compass close to 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 _____ course in the case of the standard

compass, and nil degrees on _____ course in the case of the steering compass.

Deutsche Werke Kiel
Werkzeugmaschinenfabrik

Mr. Frunig

Builder's Signature. Date 10. 4. 1931

Is this installation a duplicate of a previous case yes If so, state name of vessel m/s VARDAAS yard No 226

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

This electric Installation are of good quality. All the conductors are of the German Standards. The Soc. Rules regarding conductors have been applied generally. The installation has been fitted in accordance with the approved plans, the Secretary's letters and otherwise in conformity with the requirements of the Rules under Special Survey, and is eligible in my opinion for record of: "ELECTRIC LIGHT"

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

cm.
25/6/31.

Total Capacity of Generators 30 Kilowatts.

The amount of Fee £ 22 : 10 : 4. 6. 1931 When applied for,

Travelling Expenses (if any) £ : : 6. 7. 1931 When received,

A. Cartman
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 30 JUN 1931

Assigned Elec. Light

Im. 238.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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