

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

29 APR 1929

Date of writing Report 16th APRIL 1929 When handed in at Local Office 10 Port of HAMBURG

No. in Survey held at MIEL Date, First Survey 31st August Last Survey 4th April 1929
Reg. Book. (Number of Visits 18)

89536 on the Steel Twin Sc. M. V. "CALIFORNIA STANDARD" Tons { Gross 11446
Net

Built at MIEL By whom built FRIED. KRUPP-GERMANY Ward No. 494 When built 1929

Owners STANDARD OIL CO. of CALIFORNIA Port belonging to S. FRANCISCO

Electric Light Installation fitted by FRIED. KRUPP GERMANIA W.F.F.G. Contract No. When fitted 1929

System of Distribution Two-wire two-conductor system with separate cables, except small cables (twine)

Pressure of supply for Lighting 110 volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct Current Power Direct Current

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

Position of Generators Engine Room St. & Port side. Emergency engine room - lower deck
Are the lubricating arrangements of the generators as per Rule yes

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 forward on elevated platform
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 micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework
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 no, but access facilitated, 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 overload circuit breaker. In each outgoing circuit: 1 fuse on each pole and a single-pole charge-over switch on one pole.

Instruments on main switchboard 10 ammeters 5 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 Ohm meter

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



for small resistance The German standards have been applied

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

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *about 5% for power - 3% for light*

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, clips and in troughs, where exposed to mechanical risk - covered with sheet iron plates.*

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 *water-tight gas-tight metallic joint, for*

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 *yes*

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 *in engine room forward*
2 cyl. 450 C.S.F. Diesel engine solid injection with hand starting arrangement.

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 *yes - gas tight fittings - lamps protected by stout glass bowler*
gas-tight fitting

where are the controlling switches situated *double pole switches outside the spaces*

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

Are 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 *Lead plates.*

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*

DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	105	230	456	300	3 cyl. 450 C.S.F. Diesel eng.	Diesel oil	170° F.
AUXILIARY	1	20	230	87	470	2 cyl. 450 C.S.F. Diesel eng.		
EMERGENCY	1	20	230	87	470	in connection with rotary transformer		
ROTARY TRANSFORMER	2	15	115	130	1650	175 K.V.A. West. Motor 230V. 400.		

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. In.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2 x 4	185	61	1.97	456	50		
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR	2	50	19	1.83	87	40		
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER	2	95	37	1.81	130	20		
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	25	19	1.2	60	10		
	BOILER ROOM								
	ACCOMMODATION								
	Crew Quarters	2	25	19	1.2	60	60		
	After Ship	2	50	19	1.83	70	75		
	Midship	2	50	19	1.83	80	170		
	Fore ship	2	10	19	0.82	28	240		
	Power. Refrig. Inst.	2	35	19	1.53	65	110	rubber	lead covered and armoured
	Workshop	2	16	19	1.04	45	100		
	Midship	2	50	19	1.83	50	170		
	Winch. 7 Ft.	2	240	34	1.84	210	90		
	" Midship	2	70	37	1.55	150	110		
	" Fore ship	2	185	61	1.97	255	210		
	WIRELESS	2	10	19	0.82	28	12		
	SEARCHLIGHT	2	2.5	19	0.41	9	35		
	MASTHEAD LIGHT	2	2.5	19	0.41	11	110		
	SIDE LIGHTS	2	2.5	19	0.41	0.7	40		
	COMPASS LIGHTS	2	1.5	1	1.38	0.4	15		
	POOP LIGHTS	2	2.5	19	0.41	0.4	230		
	CARGO LIGHTS	2	2.5	19	0.41	2.5	40		
	ARC LAMPS								
	HEATERS	2	50	19	1.83	100	100		

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. In.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS	2	16	19	1.04	48	70		
	GENERAL SERVICE PUMP	1	185	61	1.97	222	60		
	EMERGENCY BILGE PUMP	2	50	19	1.83	79	20		
	SANITARY PUMP	1	10	19	0.82	38.5	60		
	CIRC. SEA WATER PUMPS	2	95	37	1.81	154	65		
	CIRC. FRESH WATER PUMPS	1	1.5	1	1.38	6.4	40		
	REFRIG. COMPRESSOR	2	10	19	0.82	32	12		
	FRESH WATER PUMP	1	10	19	0.82	38.5	70		
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	1	10	19	0.82	38.5	75		
	OIL FUEL TRANSFER PUMP	2	10	19	0.82	38.5	40	rubber	lead covered and armoured.
	WINDLASS	1	185	61	1.97	360	240		
	WINCHES, FORWARD	3 (1+2)	70-50	37-19	1.55-1.38	150-105	20-65		
	WINCHES, AFT	1	70	37	1.55	150	10		
	STEERING GEAR								
	(a) MOTOR GENERATOR	1	95	37	1.81	160	90		
	(b) MAIN MOTOR	2	95	37	1.81	160	20		
	WORKSHOP MOTOR								
	VENTILATING FANS	3	4	19	0.52	10	60-110		
	Lubric. Oil Pumps	1	2.5	19	0.41	8.7	75		
	Fuel oil	2	2.5	19	0.41	8.7	12		
	Grain Pump	2	1.5	1	1.38	6.4	15		
	Warp Winch aft	2	70	37	1.55	150	80		
	Warp Winch fore	1	70	37	1.55	150	40		
	Lake	2	4-1.5	19-1	0.52-1.38	10-6.4	10-20		
	Chapman	1	1.5	1	1.38	6.4	14		
	Drilling	1	2.5	19	0.41	8.7	12		
	Grinding	1	2.5	19	0.41	8.7	14		

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 Guilders are the Electrical Engineers. Date 18/4/29

COMPASSES.

Distance between electric generators or motors and standard compass } about 15 m. - double wire system
 Distance between electric generators or motors and steering compass }
 The nearest cables to the compasses are as follows :-
 A cable carrying 0.4 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.
 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 with
 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 course in the case of the standard compass, and nil degrees on course in the case of the steering compass.

FRIED. KRUPP
GERMANIAWERKE
 Aktiengesellschaft

[Handwritten Signature]

Builder's Signature. Date 18/4/29

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. Material and workmanship of)

This Electric Installation are of good quality. As the conductors used are of the German Standard the Society's Rules respecting conductors have been applied generally. This 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 "ELECT. LIGHT."

It is submitted that this vessel is eligible for THE RECORD ELEC. LIGHT

Rnw
 3.5.29

Total Capacity of Generators 200 Kilowatts.

The amount of Fee ... £ 37: 5: 12. 4. 29
 Travelling Expenses (if any) £ -: -: 14. 5. 29

When applied for, 12. 4. 29

When received, 14. 5. 29

[Handwritten Signature]
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned ELEC LIGHT

Im. 228. - Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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