

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 1928 Last Survey 4th April 1929
 Reg. Book. 89536 on the Steel Twin Sc. M. V. "CALIFORNIA STANDARD" (Number of Visits 18)

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-GERMANY WFT. A.G. Contract No. When fitted 1929

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

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 Are the lubricating arrangements of the generators as per Rule yes

Position of Generators Engine Room St. & Port side. Emergency engine room. Tween deck

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 In each generator:

a double-pole overload circuit breaker. In each outgoing circuit: 1 fuse on each

pole and a single-pole change-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



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

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *yes*, are their connections made 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 fore and aft*
2 cyl. 45 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 bower
gas-tight tubing

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 flash.*

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			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.			Fuel Used.	Flash Point of Fuel.
MAIN	2	105	230	456	300	3 cyl. 45 C.S.F. Diesel eng.	Diesel oil	170° F.
AUXILIARY	1	20	230	87	470	2 cyl. 45 C.S.F. Diesel eng.		
EMERGENCY	1	15	115	130	1650	175 K.W. Elect. Motor 230 Volts.		
ROTARY TRANSFORMER	2	15	115	130	1650	175 K.W. Elect. Motor 230 Volts.		

LIGHTING AND HEATING CONDUCTORS.

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								
	Genl. Quarters	2	25	19	1.2	60	60		
	Midship	2	50	19	1.83	70	75		
	Fore ship	2	50	19	1.83	80	170		
	Power. Refrig. Inst.	2	10	19	0.82	28	240	rubber	lead covered and armoured
	Workshop	2	35	19	1.53	65	110		
	Midship	2	16	19	1.04	45	100		
	Winch. 7 ft.	2	50	19	1.83	50	170		
	" 7 ft.	2	240	34	1.84	210	90		
	" 7 ft.	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		

MOTOR CONDUCTORS.

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		
	Rotary Transformer	2	50	19	1.83	79	20		
	EMERGENCY BILGE PUMP	1	10	19	0.82	38.5	60		
	SANITARY PUMP	2	95	37	1.81	154	65		
	CIRC. SEA WATER PUMPS	1	1.5	1	1.38	6.4	40		
	CIRC. FRESH WATER PUMPS	2	10	19	0.82	32	12		
	COMPRESSOR Refrig.	1	10	19	0.82	38.5	70		
	FRESH WATER PUMP								
	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		
	Fore	1	70	37	1.55	150	40		
	Lake	2	4-1.5	19-1	0.52-1.38	10-6.4	10-20		
	Chap. Machine	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

COMPASSES.

Distance between electric ~~generators~~ on motors and standard compass

Distance between electric ~~generators~~ on motors and steering compass

about 15 m. — double wire system

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

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 letter 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

Rm
3.5.29

Total Capacity of Generators

200. Kilowatts.

The amount of Fee ... £ 37: 5: 12. 4. 29

When applied for,

When received,

Travelling Expenses (if any) £ —: —: 14. 5. 28

Committee's Minute

Assigned

Friedrich Gill
Surveyor to Lloyd's Register of Shipping.