

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 14 APR 1936

Date of writing Report 9. 4. 1936 When handed in at Local Office 10 Port of BREMEN

No. in Survey held at VEGESACK Date, First Survey 19. 2. 26 Last Survey 26th March 1936
 Reg. Book. (Number of Visits 11)

40072 on the STEEL SINGLE SC. TANKER SOCONY Tons { Gross 4404
 Net 2507

Built at VEGESACK By whom built BREMER VULKAN Yard No. 718 When built 1936

Owners STANDARD TRANSPORTATION CO. LTD. Port belonging to HONGKONG

Electric Light Installation fitted by SIEMENS-SCHUCKERTWERKE A.G. Contract No. - When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk yes

System of Distribution Two wire system

Pressure of supply for Lighting 115 volts, Heating - volts, Power 115 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 temperature rise 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 Have certificates of test results for machines under 100 kw. been submitted and approved yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing -

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 on elevated platform, 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 -

Earthing, are the bedplates and frames of the generating plant efficiently earthed yes, are their axes of rotation fore and aft yes
 in metallic contact yes Main Switch Boards, where placed Engine room 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 marble, is all insulation of high dielectric strength and of permanently high insulation resistance yes

is it of an approved type 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, is the non-hygroscopic insulating material of an approved type - 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, temperature rise of omnibus bars yes, individual fuses to voltmeter, pilot or earth lamp yes, are moving parts of switches alive in the "off" position no are all screws and nuts securing connections effectively locked yes are any fuses fitted on the live side of switches no

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches
 Each generator a double pole automatic switch. Each outgoing circuit a double pole linked with and a fuse on each pole

Are turbine driven generators fitted with emergency trip switch as per rule - Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes Instruments on main switchboard 2 ammeters 2

voltmeters - synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

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

1 Ohmmeter Switches, Circuit Breakers and Fusible Cut-outs,

do these comply with the requirements of the Rules yes are the fusible cutouts of an approved type yes have the reversed



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current protection devices been tested under working conditions yes **Joint Boxes, Section and Distribution Boards**, is the construction, protection, insulation, material, and position of these as per Rule yes

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

If the cables are insulated otherwise than as per Rule, are they of an approved type — **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load 2-3% **Cable Sockets**, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes

Paper Insulated and Varnished Cambric Insulated Cables. If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound no paper insulated cables, or waterproof insulating tape — **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 Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit lead covered

Support and Protection of Cables, state how the cables are supported and protected In engine room, in deck, galleys, lower bridge deck all cables in gas tubing, otherwise on iron cable leads

If cables are run in wood casings, are the casings and caps secured by screws none, 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, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected in 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 wood & lead

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 none

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, in lower bridge deck and pump room, strong gas tight lamps how are the cables led in lower bridge deck gas tight tubing, in pump room no cables

where are the controlling switches situated in upper bridge deck

are all fittings suitably ventilated yes, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule none, are air heaters constructed and fitted as per Rule —

Searchlight Lamps, No. of 1 for main canal not gas delimited, whether fixed or portable portable, are their fittings as per Rule —

Arc 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 — if not of this type, state distance of the combustible material horizontally or vertically above the motors — and —

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing — **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 see memo **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 are all fuses of the filled cartridge type yes and automatic are they of an approved type yes

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office yes

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule 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	20	115	174	400	Acum Engine	—	
AUXILIARY								
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 Nominal Area per Pole Sq. mm.	No.	Diameter.	Circuit.	Rate.			
MAIN GENERATOR	1	120	61	1.59	174	177	40	rubber	lead covered
SHORE CONNECTIONS	1	70	37	1.55	100	100	50	—	—
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	1	2.5	1	1.78	10	15	70	—	—
BOILER ROOM	1	2.5	1	1.78	4	15	85	—	—
AUXILIARY SWITCHBOARDS I	1	4	19	0.52	5	20	180	—	—
" II	1	10	19	0.52	35	35	160	—	—
" III	1	70	37	1.55	100	100	160	—	—
" IV	1	4	19	0.52	8	20	60	—	—
" V	1	6	19	0.64	20	25	50	—	—
" VI	1	6	19	0.64	20	25	45	—	—
ACCOMMODATION									
WIRELESS	1	10	19	0.82	35	35	108	—	—
SEARCHLIGHT	1	4	19	0.52	9	20	126	—	—
MASTHEAD LIGHT	1	2.5	1	1.78	0.5	15	190	—	—
SIDE LIGHTS	1	2.5	1	1.78	0.8	15	80	—	—
COMPASS LIGHTS	1	2.5	1	1.78	0.8	15	70	—	—
POOP LIGHTS	1	2.5	1	1.78	0.8	15	160	—	—
CARGO LIGHTS	1	2.5	1	1.78	0.8	15	150	—	—
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 Nominal Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rate.			
BALLAST PUMP										
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										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR	1	1	10	19	0.82	23	35	20	rubber	lead covered
VENTILATING FANS	1	1	6	19	0.64	14	25	20	—	—
grind stone	1	1	2.5	1	1.78	8	15	20	—	—
Byrrs Compass	1	1	6	19	0.64	14	25	20	—	—

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

SIEMENS-SCHUCKERTWERKE
AKTIENGESELLSCHAFT
HANSEATISCHE ZWEIGNIEDERLASSUNG HAMBURG
in Vollmacht

Electrical Engineers.

Date 7.4.35

COMPASSES.

Distance between electric generators or motors and standard compass 8 m

Distance between electric generators or motors and steering compass 12 m

The nearest cables to the compasses are as follows:—

A cable carrying 0.2 Ampères 8 feet from standard compass 20 feet from steering compass.

A cable carrying 0.2 Ampères 120 cm feet from standard compass 120 cm 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.

The maximum deviation due to electric currents was found to be nil degrees on all course in the case of the standard compass, and nil degrees on all course in the case of the steering compass.

Bromor Vulkan
Schiffbau und Maschinenfabrik

M. Weymann

Builder's Signature.

Date 9.4.36

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 Electric Installation*)

has been fitted in accordance with the approved plans, the Permitting Letters and in conformity with the requirements of the Rules. The materials used in the construction and the workmanship are of good quality. The whole Installation has been tested under working conditions and found in order. Test sheets of generators No 4452998/9 please find attached.

Noted

Ym

16.4.36

Total Capacity of Generators 40 Kilowatts.

The amount of Fee ... RM 500,- : When applied for, 9.4.1936

Travelling Expenses (if any) £ : : When received, 29.4.1936 *29/4*

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

Committee's Minute TUE. 21 APR 1936

Assigned *see 78 Machy Report*

2m.534.—Transfer.
The Surveyors are requested not to write on or below the space for Committee's Minute.)



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