

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 8th July 1931 When handed in at Local Office 16th July 1931 Port of Gothenburg Received at London Office 18th July 1931

No. in Survey held at Gothenburg Date, First Survey 29th May Last Survey 4th July 1931

Reg. Book. (Suppl.) 89730 on the Shell Twin S Motor Tanker "BRALANTA" Tons { Gross 8215 Net 4868

Built at Dandee By whom built Caledon S.S. & Eng. Co. Yard No. 336 When built 1931

Owners Braathens Rederi A/S Port belonging to Oslo

Electric Light Installation fitted by AB. Götaverken Contract No. 444 When fitted 1931

Is the Vessel fitted for carrying Petroleum in bulk Yes

System of Distribution Two wire system.

Pressure of supply for Lighting 110 volts, Heating 110 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 on a platform aft in the motorroom

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 Yes, 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 on the same platform as the generators

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

are they constructed wholly of durable, non-ignitable non-absorbent materials of steel, 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 circuit breaker with overload and reversed current trips and a single pole equalizer switch. For each outgoing circuit: A double pole linked switch and a fuse at each pole

Instruments on main switchboard 3 ammeters 2 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

fitted with commutators for both poles.

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.

Cables: Single, twin, ~~XXXXXXXXXX~~ are the cables insulated and protected as per Tables IV or V of the Rules. **Yes**
 2V pr. cent for lighting power

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load **2V**

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 avoid the risk of mechanical damage. **Yes.**

Support and Protection of Cables, state how the cables are supported and protected supported by metal clips. All power cables lead covered and armoured. Lighting cables lead covered in cabins. For the rest lead covered and steel wire plaited or armoured.

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 **No.** 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 **No joints in main cables joints in section cables as pr rule.**

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.**

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

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

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **Lamps contained**

in gastight fittings, how are the cables led

in gastight tubing

where are the controlling switches situated **Outside of dangerous space.**

Searchlight Lamps, No. of, whether fixed or 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 **all exopt turning gear motors**

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 **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 **No portable lamps**
 supplied for use in dangerous spaces.

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	1	50	110	455	400	Diesel engine	Diesel oil	Above 150° F
XXXXXXXX	1	50	110	455	400	Steam		
XXXXXXXX								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION	No. per Pole	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPERES		Approximate Length (Lead and Return) in Feet.	Insulated with	HOW PROTECTED.
		Total Effective Area per Pole sq. mm.	mm ²	No.	Diameter	In Circuit.	Rule.			
MAIN GENERATOR	3	285	19	2.52	455	455	12-18	Rubber	Lead covered and steel	
EQUALISER CONNECTIONS	3	285	19	2.52	455	455	12-18	"	"	
AUXILIARY GENERATOR										
EMERGENCY GENERATOR										
ROTARY TRANSFORMER MOTOR GENERATOR										
ENGINE ROOM	1	6	7	1.05	26	26	15	"	"	
BOILER ROOM										
AUXILIARY SWITCHBOARDS										
ACCOMMODATION aft. starb.	1	10	7	1.35	22	22	36	"	"	
" " port	1	10	7	1.35	20	20	48	"	"	
" " midships	1	35	19	1.53	38	38	180	"	"	
" " forward	1	10	7	1.35	8	8	118	"	"	
Lanterns	1	4	7	0.86	3	3	212	"	"	
WIRELESS	1	16	7	1.35	25	25	208	"	"	
SEARCHLIGHT	1	1.5	1	1.38	0.4	0.4	90-180	"	"	
MASTHEAD LIGHT	1	1.5	1	1.38	0.4	0.4	60-60	"	"	
SIDE LIGHTS	1	1.5	1	1.38	0.4	0.4	20	"	"	
COMPASS LIGHTS	1	1.5	1	1.38	0.4	0.4	240	"	"	
POOP LIGHTS	1	1.5	1	1.38	0.4	0.4	30	"	"	
CARGO LIGHTS	1	1.5	1	1.38	4	4		"	"	
ARC LAMPS										
HEATERS										

MOTOR CONDUCTORS.

DESCRIPTION	No. of Motors	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPERES		Approximate Length (Lead and Return) in Feet.	Insulated with	HOW PROTECTED.
		No. per Pole	Total Effective Area per Pole sq. mm.	No.	Diameter	In Circuit.	Rule.			
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	2	1	4	7	0.86	24	28-30	Rubber	Lead covered and steel	
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR	2	2	190	19	2.52	315	17-17	"	"	
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	1	1	4	7	0.86	24	34	"	"	
WORKSHOP MOTOR	2	1	2.5	1	1.78	16	38-40	"	"	
VENTILATING FANS	1	1	2.5	1	1.78	16	24	"	"	
Lubr. oil separator	1	1	2.5	1	1.78	21	22	"	"	
Fuel oil "	1	1	2.5	1	1.78	8	21	"	"	
Separator pump	1	1	10	7	1.35	32	66	"	"	
Refrigerator										

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.

AB Götaverken

Electrical Engineers.

Date VII.8.31

COMPASSES.

Distance between electric generators or motors and standard compass *Wireless rotary transformer 10 met.*

Distance between electric generators or motors and steering compass *" " " " 8 met.*

The nearest cables to the compasses are as follows:—

A cable carrying Ampères feet from standard compass 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.....

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

AKTIEBOLAGET GÖTAVERKEN

E. Magnusson

Builder's Signature.

Date VII.8.31.

Is this installation a duplicate of a previous case *Yes* If so, state name of vessel *"Kalmia"*

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

This electric installation has been fitted on board this vessel under our inspection and has been tested and found satisfactory.

The workmanship is good.

All the rule requirements have been complied with.

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

Elec. Light

RM 21/7/31

Total Capacity of Generators 100 Kilowatts.

The amount of Fee £ *573.30* When applied for, *16 July 1931*

Travelling Expenses (if any) £ : : *17.8.31* When received, *17.8.31*

E. Magnusson for G. Ruander and self
 Surveyor to Lloyd's Register of Shipping.

FRI. 12 FEB 1932

Committee's Minute *FRI. 24 JUL 1931*

Assigned *Elec. Light.*

Im. 12.28.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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