

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

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Date of writing Report 10th April, 1931. When handed in at Local Office 11th April, 1931. Port of *Mahmā.*No. in Survey held at *Mahmā* Date, First Survey 27th Febr. Last Survey 1st April, 1931.Reg. Book. Suppl. 90524 on the *Twin Screw Motor Tanker "FALKEFJELL"* (Number of Visits 14)Tons { Gross 7927
Net 4603Built at *Mahmā* By whom built *Hockmoss M. T. Aktieab.* Yard No. 168 When built 1931.Owners *Akties Falkefjell* Port belonging to *Oso*Electric Light Installation fitted by *Hockmoss M. T. Aktieab.* Contract No. 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 generatorWhere more than one generator is fitted are they arranged to run in parallel *Yes*, is an adjustable regulating resistance fitted inseries 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 *One on each side at the fore end of motor space and a steam engine driven**and generator on a platform level with 2nd deck stid side in the motor casing.* are they clear of all inflammable material *Yes*is the ventilation in way of the generators satisfactory *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 andtheir respective generators in metallic contact *Yes*Main Switch Boards, where placed *On a platform at fore end of the motor space.*

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

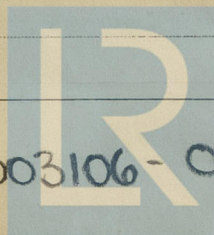
woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards ✓ and ✓

are they constructed wholly of durable, non-ignitable non-absorbent materials *Iron*, is all insulation of high dielectric strength and ofpermanently high insulation resistance *Yes*, if semi-insulating material is used, are all conducting parts insulated from the slabwith mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework *No conducting parts pass through the slab. Insulators for 5000 V. fitted.*

and is the frame effectively earthed ✓ 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 ✓, proportion of omnibusbars *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 on each pole.*

Instruments on main switchboard 8 ammeters 4 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 meters**with indicator for both poles, lamps.*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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Cables: Single, twin, concentric, or multicore *Man - single* are the cables insulated and protected as per Tables IV *Yes* of the Rules *Yes*
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *less than allowed in Sec. 4. Par. 4.*
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 avoidable risk of mechanical damage *Yes*
Support and Protection of Cables, state how the cables are supported and protected *supported by metal clips. All cables lead covered and galv. steel top armoured, except in accommodation, where lead covered. Where required protected by steel sheet.*
If cables are run in wood 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 *No joints in main cables. For branch cables metal joint boxes and watertight glands.*
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 *✓*
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 gas tight fittings*
in gas tight tubing, how are the cables led *✓*
where are the controlling switches situated *On deck outside the spaces*
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 *Yes, as a rule*
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 *✓*
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. 1 Davis hand lamps.*

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	2-75	115	2-652	350	Heavy oil engines	Heavy oil	Above 150° F.	
AUXILIARY ...	1		110	91	650	Steam engine			
EMERGENCY ...									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet. M.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter. mm.	In Circuit.	Rule. Amps.			
MAIN GENERATOR ...	3	185	37	2.52	660 ✓	700	44 & 34	Rubber	Lead covered and arm. with galv. steel top.
EQUALISER CONNECTIONS ...	3	185	37	2.52	- ✓	-	44 & 34	"	"
AUXILIARY GENERATOR ...	1	50	19	1.83	91 ✓	100	60	"	"
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER } MOTOR GENERATOR.	1	10	7	1.35	25 ✓	40	30	"	"
ENGINE ROOM ...	1	10	7	1.35	25 ✓	40	30	"	"
BOILER ROOM ...									
AUXILIARY SWITCHBOARDS ...									
Light Motor Board A	1	10	7	1.35	10 ✓	40	120	"	"
" " " B	1	50	19	1.83	60 ✓	100	150	"	"
" " " C	1	16	7	1.71	30 ✓	50	90	"	"
" " " D	1	16	7	1.71	30 ✓	50	70	"	"
" " " E	1	6	7	1.05	8 ✓	30	190	"	"
ACCOMMODATION ...	1	15	7	0.52	max. 4 ✓	8	max. 40	"	Lead covered.

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.

W. B. P. Jones Electrical Engineers.

Date *10/4-1931.*

COMPASSES.

Distance between electric generators or motors and standard compass *from engine room to bridge.*

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

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

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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.

KOCKUMS MEKANISKA VERKSTADS
ARTIE-BOLAG

G. M. S. Builder's Signature.

Date *10/4-1931.*

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.)

The above described electric installation has been fitted onboard this vessel under my inspection and has been tested and found satisfactory. All the Rule requirements have been complied with. The workmanship is good.

*See light
SA 16/4/31.*

Total Capacity of Generators *160* Kilowatts.

The amount of Fee \$Kr. *627.90* { When applied for, *11th April 1931.*

Travelling Expenses (if any) £ : : { When received, *27.4.31*

Asundén
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec SA



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