

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 14 APR 1931

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 10th April, 1931

Reg. Book. *90524* on the *Twin Screw Motor Tanker "FALKEFJELL"* Tons { Gross 7927 Net 4603

Built at *Mahmā* By whom built *Kockmans M. T. Akteb.* Yard No. 168 When built 1931

Owners *Akties Falkefjell* Port belonging to *Osko*

Electric Light Installation fitted by *Kockmans M. T. Akteb.* 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 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*

Position of Generators *One on each side at the fore end of motor space and a steam engine driven 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 *Yes*

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 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 of permanently high insulation resistance *Yes*

if semi-insulating material is used, are all conducting parts insulated from the slab *No conducting parts pass through the slab. Insulators for 5000 V fitted.*

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 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 omnibus bars *Yes*

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.*

Cables: Single, twin, concentric, or multicore *Main - single* are the cables insulated and protected as per Tables IV ~~and V~~ 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 accommodations 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 gaslight fittings*

in gaslight fittings *Yes*, how are the cables led *in gaslight tubing*
where are the controlling switches situated *On decks 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
Yes, 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.*

Amended to 210KW 12.52 Kiel Rpt 806

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR	No. of	RATED AT				DRIVEN BY		WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	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.			
MAIN GENERATOR	3	185	37	2.52	660	700	44 x 34	Rubber	Lead covered and arm with galv. steel top.
EQUALISER CONNECTIONS	3	185	37	2.52	-	-	44 x 34	"	"
AUXILIARY GENERATOR	1	50	19	1.83	91	100	60	"	"
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR									
ENGINE ROOM	1	10	7	1.35	25	40	20	"	"
BOILER ROOM	1	10	7	1.35	25	40	20	"	"
AUXILIARY SWITCHBOARDS									
Light water 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	1.5	7	0.52	max 4	8	max 40	"	Lead covered
WIRELESS	1	16	7	1.71	20	50	130	"	Lead covered and arm with galv. steel top.
SEARCHLIGHT	1	70	19	2.17	-	100	240	"	"
MASTHEAD LIGHT	1	1.5	7	0.52	0.75	8	138	"	"
SIDE LIGHTS	1	1.5	7	0.52	0.75	8	42	"	"
COMPASS LIGHTS	1	1.5	7	0.52	0.75	8	10	"	"
POOP LIGHTS	1	1.5	7	0.52	0.75	8	212	"	"
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	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.			
BALLAST PUMP	1	1	95	19	2.52	136	145	50	Rubber	Lead covered and arm with galv. steel top.
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP	2	1	16	7	1.71	48	50	46	"	"
SANITARY PUMP										
CIRC. SEA WATER PUMPS	2	1	150	37	2.3	192	200	40	"	"
Circ. FRESH WATER PUMPS										
AIR COMPRESSOR	1	4	185	37	2.52	840	920	54	"	"
FRESH WATER PUMP	1	1	2.5	7	0.67	8	15	80	"	"
ENGINE TURNING GEAR	2	1	25	7	2.13	64	64	90	"	"
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	2	1	150	37	2.3	192	200	40	"	"
OIL FUEL TRANSFER PUMP	1	1	16	7	1.71	40	50	24	"	"
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR										
(a) MOTOR GENERATOR	1	1	70	19	2.17	max 90	120	4 x 60	"	"
(b) MAIN MOTOR	1	1	6	7	1.05	24	30	50	"	"
WORKSHOP MOTOR	1	1	25	7	2.13	63	64	72	"	"
VENTILATING FANS										
CO2 compressor	1	1	150	37	2.3	152	200	84	"	"
fuel oil separator and heater	1	1	150	37	2.3	191	200	80	"	"
fuel oil separator and heater	1	1	25	7	2.13	56	64	14	"	"
Circ. sea water pump for aux. oil engine										

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.

Richard [Signature] 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.
 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.

KOCKUMS MEKANISKA VERKSTADS
 ARTIE-BOLAG

[Signature] 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) £ : : 27.49.31 { When received, 16/4/31

Adundin
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec SA

Im. 1238.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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