

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

15 NOV 1948

Received at London Office.....

Date of writing Report. 11th Nov. 48. When handed in at Local Office. 12th Nov. 48. Port of. Malmö.

Date, First Survey. 8th Sept. Last Survey. 7th Nov. 1948.
(Number of Visits..... 23.)

Survey held at. Malmö on the Single Screw Motor Tanker "BEAUFIGHTER"
Reg. Book No. 0745 Tons { Gross 10,442
Net 6,197

built at. Malmö By whom built. Kockums Mekan. V. A. B. Yard No. 304 When built. 1948.

owners. Skibs A/S Oceanic & Skibs A/S Oceanic Port belonging to. Orolo.

Electrical Installation fitted by. Kockums Mekan. V. A. B. Contract No. When fitted. 1948.

Is vessel fitted for carrying Petroleum in bulk. Is vessel equipped with D.F. E.S.D. Gy.C. Radar: Sub-Sig.

Have plans been submitted and approved. System of Distribution. Two wire system. Voltage of supply for Lighting. 110.

Heating. 110-220 Power. 220 Direct or Alternating Current, Lighting. Direct Power. Direct If Alternating Current state periodicity. Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off. Are turbine emergency governors fitted with a

trip switch as per Rule. Generators, are they compound wound. are they level compounded under working conditions.

if not compound wound state distance between generators. and from switchboard. Where more than one generator is fitted are they

arranged to run in parallel. are shunt field regulators provided. Is the compound winding connected to the negative or positive pole

negative pole. Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing. Have certificates of

test for machines under 100 kw. been supplied. and the results found as per rule. Are the lubricating arrangements and the construction

of the generators as per rule. Position of Generators. Main: - 1 on each side in motor space. Aux. steam

liners: - On 2nd deck, port side. Is the ventilation in way of generators satisfactory. are they clear of inflammable material. if situated

near unprotected combustible material state distance from same horizontally. and vertically. are the generators protected from mechanical

injury and damage from water, steam and oil. are the bedplates and frames earthed. and the prime movers and generators in metallic

contact. Switchboards, where are main switchboards placed. On a platform at port side in eng. room.

are they in accessible positions, free from inflammable gases and acid fumes. are they protected from mechanical injury and damage from water, steam

and oil. if situated near unprotected combustible material state distance from same horizontally. and vertically. what insulation

material is used for the panels. Main - steel. if of synthetic insulating material is it an Approved Type. if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule. Is the frame effectually earthed.

Is the construction as per Rule. including accessibility of parts. absence of fuses on the back of the board. individual fuses

to pilot and earth lamps, voltmeters, etc. locking of screws and nuts. labelling of apparatus and fuses. fuses on the "dead"

side of switches. Description of Main Switchgear for each generator and arrangement of equaliser switches.

Generators: - A double pole circuit breaker with overload and rev. current

trips and a single pole equaliser switch.

and for each outgoing circuit. A double pole linked switch and a fuse on each pole.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. Instruments on main switchboard. 8

ammeters. 3 voltmeters. 3 synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection. Earth Testing, state means provided. Ohm meters.

Switches, Circuit Breakers and Fuses, are they as per Rule. are the fuses an approved type. are all fuses labelled as

per Rule. If circuit breakers are provided for the generators, at what overload current did they open when tested. Main generators 240 A. are the reversed current

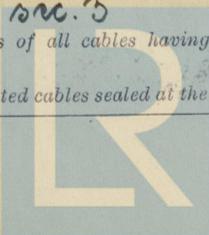
protection devices connected on the pole opposite to the equaliser connection. have they been tested under working conditions, and at what current

did they operate. Main 60-80 A. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule.

Aux. 30 A. Cables, are they insulated and protected as per the appropriate Tables of the Rules. if otherwise than as per Rule are they of an approved type.

state maximum fall of pressure between bus bars and any point under maximum load. less than allowed in sec. 3 are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets. Are paper insulated and varnished cambric insulated cables sealed at the ends.



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with insulating compound... or waterproof insulating tape... Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage... *yes*, are cables laid under machines or floorplates... *yes*, if so, are they adequately protected... *yes*. Are cables in machinery spaces, galleys, laundries, etc., lead covered... *yes* or run in conduit... State how the cables are supported and protected. *Supported by metal clips. Protected where necessary.*

Are all lead sheaths, armouring and conduits effectually bonded and earthed... *yes*. Refrigerated chambers, are the cables and fittings as per Rule... *yes*. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands... *yes*, where unarmoured cables pass through beams, etc., are the holes effectively bushed... *yes* and with what material... *Lead*. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... *yes*. Emergency Supply, state position... and method of control... *yes*

Navigation Lamps, are they separately wired... *yes* controlled by separate double pole switches... *yes* and fuses... *yes*. Are the switches and fuses in a position accessible only to the officers on watch... *yes*, is an automatic indicator fitted... *yes*. Secondary Batteries, are they constructed and fitted as per Rule... *yes*, are they adequately ventilated... what is the battery capacity in ampere hours... *yes*

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... *yes*. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present... *yes*, if so, how are they protected... *Lamps contained in flame proof fittings and cables led in gastight tubing and where are the controlling switches fitted... *Vibrating outside these spaces*, are all fittings suitably ventilated... *yes*, are all fittings and accessories constructed and installed as per Rule... *yes*. Searchlight Lamps, No. of... whether fixed or portable... are their fittings as per Rule... Heating and Cooking, is the general construction as per Rule... *yes**

are the frames effectually earthed... *yes*, are heaters in the accommodation of the convection type... *yes*. Motors, are all motors constructed and installed as per Rule... *yes* and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil... *yes*, if situated near unprotected combustible material state minimum distance from same horizontally... and vertically... Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment... Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing... *None*. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule... *yes*. Control Gear and Resistances, are they constructed and fitted as per Rule... *yes*. Lightning Conductors, where required are they fitted as per Rule... *yes*. Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with... *yes*, are all fuses of the cartridge type... *yes*

are they of an approved type... *yes*. Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships... *yes*. Are the cables lead covered as per Rule... *yes*. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule... *yes*, are they suitably stored in dry situations... *yes*. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory... *No*.

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	150	230	652	350	Heavy oil engines.	Heavy oil. Above 150° F.	
Auxiliary	1	75	230	326	600	Steam engine.		
EMERGENCY								
ROTARY TRANSFORMER	1	221	115	191	1500			

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load plus return in feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	150	3	185	652	699	max. 60	Rubber lead covered & armoured.	
" " EQUALISER			6	185		" 60	"	"
Auxiliary Generator	75	2	120	326	350	24	"	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR	25	1	70	125	125	24	"	"
" " GENERATOR	221	1	150	191	200	22	"	"

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load plus return in feet).	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
B1 & B2	1	120	max. 165	175	max. 186	Rubber lead covered & armoured.	
B4 & B5	1	16	44	48	58	"	"
B6, C1 & C2	1	10	33	38	76	"	"
C3	1	70	114	125	77	"	"
C4	1	25	49	63	70	"	"
Radar	1	6	13	28	170	"	"
Engine	1	6	63	28	170	"	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return in feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS C.6	1	25	16	63	207	Rubber lead covered & armoured.
NAVIGATION LIGHTS B.3	1	6	3	28	100	"
LIGHTING AND HEATING						
Main head lights.	1	1.5	0.4	7	max. 162	"
Side lights.	1	1.5	0.4	7	max. 40	"
Prop. light.	1	1.5	0.4	7	260	"
Morse light.	1	1.5	0.4	7	24	"
Compass lights.	1	1.5	0.4	7	max. 22	"
Cooking.	2	2.5	10.5	63	10	"
Water heater.	1	16	38	48	86	"
" "	1	4	9	21	10	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return in feet).	INSULATED WITH.	HOW PROTECTED.
Bridge pumps.	1	8	10	32	38	Rubber lead covered & armoured.	
Fire pumps.	1	21	50	79	25	"	
Circ. sea water pumps.	2	33	70	126	125	max. 77	"
" " pumps, aux. eng.	1	5	4	19.5	21	59	"
Engine turning gear.	1	15	2.5	58.5	63	99	"
Lubricating oil pumps.	2	46	150	172	203	max. 83	"
Oil fuel transfer pumps.	1	5	4	20	21	32	"
Circ. pumps for ex. gas economiser.	1	0.8	1.5	7	7	16	"
Cooling pumps for fuel motor.	2	1	1.5	4.5	7	max. 54	"
Refrigerating compressors.	1	5	6	20	29	69	"
Lifts.	1	5	6	21	29	37	"
Drilling machine.	1	1.8	2.5	7.7	13	18	"
Grinding "	1	1.5	1.5	6.4	7	37	"
Hydrophore pumps.	2	2.5	2.5	10.3	13	max. 13	"
Oil separators.	2	8	10	31.5	38	56	"
Lift blocks.	1	6.45	6	30	30	36	"
Turning gear.	1	20	35	79.5	80	73	"

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
 All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
 The foregoing is a correct description.

M. S. Securing

Electrical Engineers.

Date *12.11.48*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *to engine room to bridge.*

Minimum distance between electric generators or motors and steering compass *to engine room to bridge.*

The nearest cables to the compasses are as follows:—

A cable carrying *abt. 4* Ampères *10* feet from standard compass *7* 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 *No.*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted *Yes*

The maximum deviation due to electric currents was found to be *0* degrees on *✓* course in the case of the standard compass, and *0* degrees on *✓* course in the case of the steering compass.

KOCIKUMS
 KEMANISIA VEKSTANA INTERSIAD

Trukhobulung

Builder's Signature.

Date

Is this installation a duplicate of a previous case *No* If so, state name of vessel *✓*

Plans. Are approved plans forwarded herewith *No* If not, state date of approval *28.7.1948.*

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith *Yes.*

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The above described electrical equipment installation has been fitted onboard under survey in accordance with the Rules, approved plans and instructions. The workmanship and the materials are good.

*Noted.
 J.S.
 9.12.48.*

Total Capacity of Generators *375* Kilowatts.

The amount of Fee *Item. No. 270.-* When applied for, *12-11-48.*
mm. No. 1080.-
 Travelling Expenses (if any) *Item. No. : 55.20* When received,19.....
Item.

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

Committee's Minute *FRI. 17 DEC 1948*

Assigned *See F.E. mch. rpt.*

5m. 4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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