

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

14 OCT 1929

Date of writing Report 5<sup>th</sup> Oct 1929 When handed in at Local Office 4<sup>th</sup> Oct 1929 Port of Nicolaieff U.S.S.R. Received at London Office.....

No. in Survey held at Nicolaieff U.S.S.R. Date, First Survey 27. 7. 28 Last Survey 27. 9. 1929  
Reg. Book. (Number of Visits.....)

on the Motor Vessel "EMBANETT"

Built at Nicolaieff By whom built Nicolaieff Yard "Andre Marti" Yard No. 185 When built 1929  
Tons { Gross 4491  
Net 5335

Owners Naphta Syndicate U.S.S.R. Port belonging to Kovorossiok U.S.S.R.

Electric Light Installation fitted by State Electric Trust Contract No. ✓ When fitted 1929

System of Distribution Double Wire

Pressure of supply for Lighting 110 volts, Heating ✓ volts, Power 110 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 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 In Auxillary Engine Room

is the ventilation in way of the generators satisfactory yes, are they clear of all inflammable material none

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 and their respective generators in metallic contact yes

Main Switch Boards, where placed In special room off Aux engine room with openings extended into Aux. Eng. Room

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 Same Compartment

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 yes, 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 micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework micronite used on fittings

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 none, 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 Each of the 2-80KW generators and the 38KW generator has 2 single pole fuses & 2 single pole circuit breakers with overload & reverse trips. Both the 80KW sets are connected to the main pair of bars in parallel & the 38KW set to another pair of bus bars for connecting in parallel and generator has 2 single pole fuses and double pole circuit breaker & double pole switch.

Instruments on main switchboard 12 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 Ammeter for pressure 115 Volts

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



*Single 7*  
**Cables:** *Single 7*, *concentric*, or *multicore* *Multicore* are the cables insulated and protected as per Tables IV or V of the Rules. *Table IV*  
**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load. *Power 7.5 Volts. Righting 5.3 Volts*  
**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 *Metal clips. Sheet steel plating and tubes when passing through decks.*  
 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 *Power Cables - none. Lighting Cables - 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,** when 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 *None.*  
 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 *Emergency dynamo of 4 kW. is located in compartment on bridge deck and driven by a oil engine which is started by hand. It is switched on from the emergency switchboard.*  
**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 except for Radio*  
**Fittings,** are all fittings on weather decks, in stowaways and engine rooms and where or 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 *Hermetically sealed with protective netting.*  
 are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *Fittings hermetically sealed.*  
 how are the cables led *Cables not fitted in these spaces.*  
 where are the controlling switches situated *Outside of these spaces in places convenient for handling*  
**Searchlight Lamps, No. of** *1*, whether fixed or portable *Fixed.*, are their fittings as per Rule *Yes.*  
**Arc Lamps,** other than searchlight lamps, No. of *None.*, 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, laced 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 *✓*  
**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 *None.*  
**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 *✓*

**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	3	280/38	110	695-330	375	Diesel Engines.		
AUXILIARY								
EMERGENCY	1	4	110	35	600	Internal Combustion Engine.		
ROTARY TRANSFORMER								

**LIGHTING AND HEATING CONDUCTORS.**

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current in Amps.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	10	400	91	3.25	695-330	20 mels.		Lead Covered.
	EQUALISE CONNECTIONS	3	400/240	91/61	2.95/3.2		10		
	AUXILIARY GENERATOR	2	25	4	14	35	5		
	EMERGENCY GENERATOR	2	25	4	14	35	5		
	ROTARY TRANSFORMER	8	25	4	14	35	5		
	AUXILIARY SWITCHBOARDS	8	25	4	14	35	5		
	ENGINE ROOM	4	6	4	9	30	40		
	BOILER ROOM	8	1	4	6	3	10		
	ACCOMMODATION	2	1	4	6				
	WIRELESS	2	25	4	14		20 mels.		
	SEARCHLIGHT	2	25	19	16.5	40	260		
	MASTHEAD LIGHT	6	2.5	4	4.5	1.6	204/140		
	SIDE LIGHTS	6	1	4	6	1.6	140		
	COMPASS LIGHTS	4	1	4	6	0.5	10		
	POOP LIGHTS	3	4	4	8.5	1.6	360		
	CARGO LIGHTS	8	2.5	4	4.5	4.5	246		
	ARC LAMPS								
	HEATERS								

*Cables made according to the Rules of the Russian Naval Department.*

**MOTOR CONDUCTORS.**

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current in Amps.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP FOR	1	240	61	3.2	300	24 mels.		Lead Covered.
	MAIN BILGE LINE PUMPS	2	625	91	4.75	635	135		
	AUX. " " GENERAL SERVICE PUMPS	2	125	34	2.5	200	180		
	EMERGENCY BILGE PUMP	1	25	4	14	65	30		
	BALLAST AND SANITARY PUMP AFT	1	16	4	12.5	35	13		
	AFT BILGE PUMP	1	16	4	12.5	35	13		
	GR. SEA WATER PUMPS	1	25	4	14	69	25		
	CIRC. FRESH WATER PUMPS	1	25	4	14	69	25		
	AIR COMPRESSOR	1	25	4	14	69	25		
	FRESH WATER PUMP	1	25	4	14	69	25		
	ENGINE TURNING GEAR	2	65	19	15.5	160/80	60/20		
	ENGINE REVERSING GEAR	1	50	19	17.5	125	80		
	LUBRICATING OIL PUMPS	6	125/100/8	4/4	12.5/23.5	35/20/3	13/20/13/60		
	OIL FUEL TRANSFER PUMPS	1	400	91	3.75	450	10		
	WINDLASS	2	75	19	22	120	150		
	WINCHES, FORWARD	1	400	91	3.75	285	12		
	WINCHES, AFT	1	400	91	3.75	285	12		
	STEERING GEAR	1	185/400	34/91	2.85/3.5	285	10		
	(a) MOTOR GENERATOR	1	400	91	3.75	285	10		
	(b) MAIN MOTOR	1	25	4	14	140	20		
	WORKSHOP MOTOR	4	10/35	4/13	12.5/15.5	23/4	30		
	VENTILATING FANS	1	10	4	7.5	12.5	60		
	Separator	1	25	4	14		8		
	Compressor	1	6	4	9		6		
	Mixers	1	6	4	9		6		
	Pumps	1	4	4	8.5		8		
	Ventilators	1	4	4	8.5		8		
	Fire extinguishing Plant	1	95	19	22	200	30		
	Wardroom Water generator	1	185/400	34/91	2.85/3.5	392-450	10/10		

*Cables made according to the Rules of the Russian Naval Department.*

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.

*J. M. Kobaneh*

Electrical Engineers.

Date *19/viii-29.*

COMPASSES.

Distance between electric generators or motors and standard compass *37' 6"*

Distance between electric generators or motors and steering compass *34'*

The nearest cables to the compasses are as follows:—

A cable carrying *4* Amperes *10* feet from standard compass *6* feet from steering compass.

A cable carrying *0.5* Amperes *Fixed to body of* feet from standard compass *and* feet from steering compass.

A cable carrying \_\_\_\_\_ Amperes \_\_\_\_\_ feet from standard compass \_\_\_\_\_ feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power *Under normal working conditions*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted *No*

The maximum deviation due to electric currents was found to be *-1.25* degrees on *S.E. and S.W.* course in the case of the standard compass, and *-2 + 2* degrees on *S.W. and N.W.* course in the case of the steering compass.

*Alenupf*

Builder's Signature.

Date *19/viii 29.*

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 installation has been fitted on board under Special Survey, tested under working conditions and found satisfactory. The Workmanship was found to be good and sound. Constant attendance on yard during the installing of the plant.*

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

*elec. light*

*22/10/29*

*J. J. Barr*

Total Capacity of Generators *202* Kilowatts.

The amount of Fee ... .. £	:	:	When applied for,
			.....19.....
Travelling Expenses (if any) £	:	:	When received,
			.....19.....

*J. J. Barr* ✓ *J. C. Cochrane*  
 Surveyor to Lloyd's Register of Shipping.

FRI, 25 OCT 1929

Committee's Minute

Assigned *Elec Light*

Im. 128—Transfer. (The Surveys are requested not to be written on or below the space for Committee's Minute.)



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