

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

No. 25

5 NOV 1928

Date of writing Report 18th Oct. 1928 When handed in at Local Office

19 Port of LENINGRAD

No. in Survey held at LENINGRAD

Date, First Survey 11-1-27

Last Survey 29th Oct 1928

Reg. Book. 53597 on the M/S "IAN RUZUTAK"

(Number of Visits 9)

Built at LENINGRAD

By whom built SEVERNEY SHIPBUILDING YARD Yard No. 300

Tons { Gross 3614.8
Net 2087.1

When built 1928

Owners SOVTORGFLOT

Port belonging to LENINGRAD

Electric Light Installation fitted by G.E.T. ELECTRICAL TRUST

Contract No. 300 When fitted 1928

System of Distribution DOUBLE WIRE SYSTEM

Pressure of supply for Lighting

220 volts, Heating

volts, Power

220 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.

, if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel TWO 60 KW. MACHINES 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

short circuited, or touched YES

Are the lubricating arrangements of the generators as per Rule YES

Position of Generators ENGINE ROOM

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

NONE

and

, are the generators protected from mechanical injury and damage from water, steam or oil

are their axes of rotation fore and aft YES

Earthing, are the bedplates and frames of the generating plant efficiently earthed YES

their respective generators in metallic contact YES

are the prime movers and

Main Switch Boards, where placed ENGINE ROOM. EMERGENCY GENERATOR SWITCHBOARD IN DECK HOUSE

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 NONE

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 micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework STEEL SWITCHBOARD FITTINGS

INSULATED WITH MICANITE

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 MAIN FUSES ON FRONT

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 60 KW. GENERATOR HAS

TWO SINGLE POLE FUSES & DOUBLE POLE CIRCUIT BREAKERS WITH OVERLOAD & REVERSE CURRENT TRIPS. FOR EQUALIZING WHEN

PARALLEL RUNNING A TRIPLE POLE SWITCH IS FITTED. AUX. GENERATOR HAS TWO SINGLE POLE FUSES & DOUBLE POLE SWITCH.

Instruments on main switchboard

3

ammeters

5

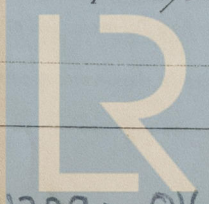
volts

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 FRISCH SYSTEM

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules NO, SIMILAR TO THOSE FITTED ON TIMBER CARRYING VESSELS & APPROVED BY LONDON.

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule YES



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Foundation

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Cables: Single, twin, concentric, or multicore *SINGLE TWIN* are the cables insulated and protected as per Tables IV or V of the Rules *APPROVED 18/12/26*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *WINDLASS 5%*

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, TUBES & SHEET IRON PLATING*

If cables are run in wood casings, are the casings and caps secured by screws *NO*, 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 *NO LIGHTS IN CARGO CHAMBERS*

Joints in Cables, state if any, and how made, insulated, and protected *ALL POWER CABLES HAVE DIRECT LEADS. LIGHTING CABLES BY JUNCTION 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, 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 *BRASS OR LEAD*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *RADIO, 100 Sq. m.*

, are their connections made as per Rule *YES*

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 *THE EMERGENCY SUPPLY IS CONNECTED TO THE SUB-DISTRIBUTION BOARDS FOR EACH LIGHTING CIRCUIT. GENERATOR IS DRIVEN BY A PARAFFIN MOTOR*

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 *RADIO ONLY*

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 *NONE*

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

, how are the cables led

where are the controlling switches situated *✓*

Searchlight Lamps, No. of *TWO*, whether fixed or portable *FIXED ON BRIDGE*, 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 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 *NO*

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 STEEL MASTS*

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 *✓*

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 ...	<i>TWO</i>	<i>60</i>	<i>230</i>	<i>273</i>	<i>300</i>	<i>INTERNAL COMBUSTION ENGINE</i>	<i>DIESEL OIL</i>	<i>ABOVE 150° F.</i>
AUXILIARY ...	<i>ONE</i>	<i>16</i>	<i>230</i>	<i>73</i>	<i>630</i>	"	<i>Do. Do.</i>	<i>Do.</i>
EMERGENCY ...	<i>ONE</i>	<i>10</i>	<i>230</i>	<i>44</i>	<i>630</i>	"	<i>PARAFFIN OIL</i>	<i>✓</i>
ROTARY TRANSFORMER	<i>FOR RADIO</i>	<i>2</i>	<i>220</i>	<i>7</i>	<i>2500</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No. m/m.	Diameter.				
	MAIN GENERATOR...	<i>1</i>	<i>0.450</i>	<i>6/2.24</i>	<i>1.24</i>	<i>273</i>	<i>70</i>	<i>VUL RUBBER</i>	<i>LEAD COVERED</i>
	EQUALISER CONNECTIONS ...	<i>✓</i>	<i>0.240</i>	<i>37/2.03</i>	<i>0.76</i>	<i>✓</i>	<i>5</i>	"	"
	AUXILIARY GENERATOR ...	<i>1</i>	<i>0.76</i>	<i>19/1.83</i>	<i>0.67</i>	<i>73</i>	<i>50</i>	"	"
	EMERGENCY GENERATOR ...	<i>1</i>	<i>0.038</i>	<i>7/2.13</i>	<i>0.5</i>	<i>44</i>	<i>265</i>	"	"
	ROTARY TRANSFORMER <i>RADIO</i> ...	<i>1</i>	<i>0.006</i>	<i>7/1.76</i>	<i>0.59</i>	<i>8.7</i>	<i>250</i>	"	"
	AUXILIARY SWITCHBOARDS ...	<i>✓</i>						"	"
	ENGINE ROOM ...	<i>1</i>	<i>0.004</i>	<i>7/0.67</i>	<i>0.29</i>	<i>5</i>	<i>200</i>	"	"
	BOILER ROOM ...	<i>✓</i>						"	"
	ACCOMMODATION ...	<i>1</i>	<i>0.035</i>	<i>7/2.13</i>	<i>0.5</i>	<i>60</i>	<i>200</i>	"	"
	<i>TILCLART ACCOMMODATION</i> ...	<i>1</i>	<i>0.0015</i>	<i>7/0.73</i>	<i>0.23</i>	<i>2.0</i>	<i>150</i>	"	"
	<i>AFT LIGHTING CIRCUIT</i> ...	<i>1</i>	<i>0.015</i>	<i>7/1.35</i>	<i>0.43</i>	<i>10.0</i>	<i>250</i>	"	"
	NAVIGATION LAMP CIRCUIT ...	<i>1</i>	<i>0.009</i>	<i>7/1.05</i>	<i>0.670</i>	<i>1.2</i>	<i>100</i>	"	"
	WIRELESS ...	<i>✓</i>						"	"
	SEARCHLIGHT ...	<i>✓</i>						"	"
	MASTHEAD LIGHT ...	<i>✓</i>						"	"
	SIDE LIGHTS ...	<i>✓</i>						"	"
	COMPASS LIGHTS ...	<i>✓</i>						"	"
	POOP LIGHTS ...	<i>✓</i>						"	"
	CARGO LIGHTS ...	<i>✓</i>						"	"
	ARC LAMPS ...	<i>✓</i>						"	"
	HEATERS ...	<i>✓</i>						"	"

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No. m/m.	Diameter.				
	BALLAST PUMP ...	<i>✓</i>						"	"
	MAIN BILGE LINE PUMPS ...	<i>2</i>	<i>0.475</i>	<i>6/2.51</i>	<i>1.375</i>	<i>300</i>	<i>120</i>	<i>VUL RUBBER</i>	<i>LEAD COVERED</i>
	GENERAL SERVICE PUMP ...	<i>✓</i>						"	"
	EMERGENCY BILGE PUMP ...	<i>✓</i>						"	"
	SANITARY PUMP ...	<i>✓</i>						"	"
	CIRC. SEA WATER PUMPS ...	<i>✓</i>						"	"
	CIRC. FRESH WATER PUMPS ...	<i>✓</i>						"	"
	AIR COMPRESSOR ...	<i>1</i>	<i>0.475</i>	<i>6/2.51</i>	<i>1.375</i>	<i>320</i>	<i>165</i>	"	"
	SEA WATER PUMP ...	<i>1</i>	<i>0.009</i>	<i>7/1.05</i>	<i>0.670</i>	<i>13</i>	<i>110</i>	"	"
	FRESH WATER PUMP ...	<i>1</i>	<i>0.015</i>	<i>7/1.35</i>	<i>0.430</i>	<i>30</i>	<i>165</i>	"	"
	ENGINE TURNING GEAR ...	<i>✓</i>						"	"
	ENGINE REVERSING GEAR ...	<i>✓</i>						"	"
	SHARLES PLANT FROM LUBRICATING OIL PUMPS ...	<i>4</i>	<i>0.009</i>	<i>7/1.05</i>	<i>0.670</i>	<i>20</i>	<i>250</i>	"	"
	DISTRIBUTION BOX ...	<i>✓</i>						"	"
	OIL FUEL TRANSFER PUMP ...	<i>✓</i>						"	"
	WINDLASS ...	<i>1</i>	<i>0.076</i>	<i>19/1.83</i>	<i>0.670</i>	<i>84</i>	<i>465</i>	"	"
	WINCHES, FORWARD ...	<i>4</i>	<i>0.37</i>	<i>6/2.24</i>	<i>1.120</i>	<i>225</i>	<i>260</i>	"	"
	WINCHES, AFT ...	<i>5</i>	<i>0.460</i>	<i>6/2.51</i>	<i>1.375</i>	<i>225</i>	<i>400</i>	"	"
	STEERING GEAR ...	<i>✓</i>						"	"
	(a) MOTOR GENERATOR ...	<i>✓</i>						"	"
	(b) MAIN MOTOR ...	<i>1</i>	<i>0.038</i>	<i>7/2.13</i>	<i>0.55</i>	<i>44</i>	<i>530</i>	"	"
	WORKSHOP MOTOR ...	<i>1</i>	<i>0.009</i>	<i>7/1.05</i>	<i>0.670</i>	<i>17</i>	<i>135</i>	"	"
	VENTILATING FANS ...	<i>2</i>	<i>0.009</i>	<i>7/1.05</i>	<i>0.670</i>	<i>17</i>	<i>200</i>	"	"
	EMER. AIR COMPRESSOR ...	<i>1</i>	<i>0.038</i>	<i>7/2.13</i>	<i>0.55</i>	<i>40</i>	<i>165</i>	"	"
	REFRIGERATING PLANT ...	<i>70 DIS. BOARD</i>	<i>0.560</i>	<i>6/2.51</i>	<i>2.11</i>	<i>370</i>	<i>200</i>	"	"
	DO COMPRESSOR ...	<i>1</i>	<i>0.145</i>	<i>19/2.52</i>	<i>0.750</i>	<i>145</i>	<i>10</i>	"	"
	DO " ...	<i>1</i>	<i>DO</i>	<i>DO</i>	<i>DO</i>	<i>DO</i>	<i>15</i>	"	"
	DO BRINE PUMP ...	<i>1</i>	<i>0.088</i>	<i>7/2.13</i>	<i>0.370</i>	<i>30</i>	<i>10</i>	"	"
	DO " ...	<i>1</i>	<i>DO</i>	<i>DO</i>	<i>DO</i>	<i>DO</i>	<i>10</i>	"	"
	DO SEA WATER PUMP ...	<i>1</i>	<i>DO</i>	<i>DO</i>	<i>DO</i>	<i>DO</i>	<i>30</i>	"	"

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.

P. Kontorowich

Electrical Engineers.

Date *20. IV. 28*

COMPASSES.

Distance between electric generators or motors and standard compass *67 FT.*

Distance between electric generators or motors and steering compass *60 FT.*

The nearest cables to the compasses are as follows:—

A cable carrying *2* Amperes *3.5* feet from standard compass *4* feet from steering compass.

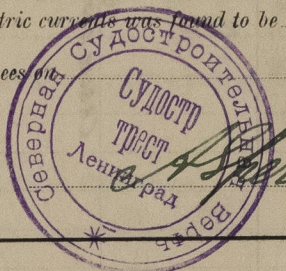
A cable carrying *0.1* Amperes *✓* feet from standard compass *2* feet from steering compass.

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 *YES*

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 *ALL* courses in the case of the standard compass, and *✓* degrees on *✓* course in the case of the steering compass.



Builder's Signature.

Date *18. VII. 28*

Is this installation a duplicate of a previous case *YES* If so, state name of vessel *M/S "ALEXEY RYKOFF"*

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

This installation has been fitted on board the vessel under special survey, the workmanship generally was found to be very good. Bock 60 kw. machines have been examined under full load running conditions and found to be working satisfactory, circuit breakers also examined and reverse current trips tried and found in working order.

Notice giving instruction for working the circuit breakers and triple pole switches as requested by London Office letter 9/12/27 have been placed on board and will be fitted on the switch board on the vessel's return to Leningrad.

It is submitted that this vessel is eligible for the Record.

Glee. Light

J.A. 9/11/28

Total Capacity of Generators *146* Kilowatts.

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

H. M. Crick

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 13 NOV 1928 TUE. 4 DEC 1928

Assigned

the J.M.



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