

REPORT ON ELECTRICAL EQUIPMENT.

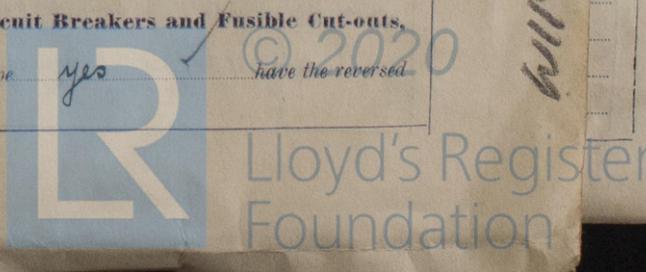
(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 12th Jan. 1938 When handed in at Local Office Hamburg Port of Hamburg
 Received at London Office 20 JAN 1938
 No. in Survey held at Hamburg Date, First Survey 20th Dec. 1937 Last Survey 4th Jan. 1938
 Reg. Book. Hamburg (Number of Visits 10)
 on the Fast Single Trawler "NORVIK." Tons { Gross 9555
 Net 8987
 Built at Hamburg By whom built Deutsche Werft A.G. Yard No. 194 When built 1938
 Owners Fischer Corporation Johan Rasmussen & Co., Sandefjord Port belonging to Panama R.P.
 Electric Light Installation fitted by Allgemeine Elektrizitäts-Gesellschaft Contract No. - When fitted 1938
 Is the Vessel fitted for carrying Petroleum in bulk yes

System of Distribution two-wire two-conductor system
 Pressure of supply for Lighting 110 volts, Heating 110 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 temperature rise 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 no, is an adjustable regulating resistance fitted in series with each shunt field yes Have certificates of test results for machines under 100 kw. been submitted and approved Certificates attached Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing -
 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 port side of engine room floor, 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 - 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 Port side of engine room floor
 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 yes, is all insulation of high dielectric strength and of permanently high insulation resistance yes
 is it of an approved type 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 -, is the non-hygroscopic insulating material of an approved type -, 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 yes, temperature rise of omnibus bars yes, individual fuses to voltmeter, pilot or earth lamp yes, are moving parts of switches alive in the "off" position no are all screws and nuts securing connections effectively locked yes are any fuses fitted on the live side of switches no
 Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches
 For each generator a double-pole linked switch and a fuse on each pole.
 For each outgoing circuit a double-pole change-over switch and a fuse on each pole.
 Are turbine driven generators fitted with emergency trip switch as per rule - Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes Instruments on main switchboard 2 ammeters 2
 voltmeters - synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection -
 Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system
voltmeter with Ohm scale Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes are the fusible cutouts of an approved type yes have the reversed -

Handwritten initials and date: 25/1/38

Handwritten number: 7 2300 - 0032 1/2



current protection devices been tested under working conditions yes **Joint Boxes, Section and Distribution Boards,** is the construction, protection, insulation, material, and position of these as per rule yes

Cables: Single, ~~main~~ ^{only 1.5+2.3} or multicore yes are the cables insulated and protected as per Tables IV, V, X ~~of the Rules~~ ^{the German Standards have been applied}

If the cables are insulated otherwise than as per Rule, are they of an approved type yes **Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load 2.7 Volts **Cable Sockets,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes **Paper Insulated and Varnished Cambric Insulated Cables,** If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound none or waterproof insulating tape none **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 Are cables in machinery spaces, galleys, lavatories, bathrooms and lavatories lead covered or run in conduit lead covered

Support and Protection of Cables, state how the cables are supported and protected all lead covered and armoured cables clipped on galvanized sheet iron perforated cable runs, and where necessary wholly enclosed in galvanized iron casing or tubing

If cables are run in wood casings, are the casings and caps secured by screws none, are the cap screws of brass none, are the cables run in separate grooves none. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII yes

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected gas tight 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,** 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 wood and lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas none are their connections made as per Rule none

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 none

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 in wheel house has each navigation lamp an automatic indicator as per Rule yes **Secondary Batteries,** are they constructed and fitted as per Rule yes (for wireless)

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 gas tight fitted, strongly protected glass bowls in pump room in gas tight galvanized tubing where are the controlling switches situated Bridge deck

are all fittings suitably ventilated yes are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule yes are air heaters constructed and fitted as per Rule yes

Searchlight Lamps, No. of none, whether fixed or portable none, are their fittings as per Rule none

Are Lamps, other than searchlight lamps, No. of none, are their live parts insulated from the frame or case none, are their fittings as per Rule none

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 except rudder motor, 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 none and none

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing none **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 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 yes are all fuses of the filled cartridge type Elfa Automates are they of an approved type yes

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office none

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule yes

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	1	22	115	191	400	One cyl. steam engine	-	-
EMERGENCY	1	22	115	191	550	4 cyl. Diesel eng.	Diesel oil	above 150° F.
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	No. per Pole.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.				
MAIN GENERATOR No. 1+2	1	150	61	1.77	191	205.6	14-15			
SHORT CONNECTIONS	1	95	37	1.81	100	151.6	36			
AUXILIARY GENERATOR										
EMERGENCY GENERATOR										
ROTARY TRANSFORMER GENERATOR										
ENGINE ROOM	1	1.5	1	1.38	6	9.4	~ 40			
BOILER ROOM	1	7.0	37	1.55	80	123.7	210			
DISTRIBUTION SWITCHBOARDS No. 2	1	7.0	37	1.55	80	123.7	22			
DISTRIBUTION " " No. 1	1	2.5	1	1.78	15	15.5	58			
NAVIGATION " " " 5	1	2.5	1	1.78	15	15.5	218			
DISTRIBUTION " " " 3	1	10	19	0.82	26	38.1	60			
" " " 4	1	10	19	0.82	26	38.1	80		Rubber	Lead covered and armoured.
Accommodation " " " 6	1	7.0	37	1.55	~ 110	133.7	36			
" " " 7	1	2.5	19	1.30	50	63.2	74			
Heating plate 3 h 7"	1	1.0	19	0.82	27.2	38.1	18			
" " 1.2 h 7"	1	3.5	1	1.78	10.9	15.5	30			
Fresh water heaters in Fore and Captain's bathroom	1	2.5	1	1.78	10.9/36	15.5	18/30			
WIRELESS	1	5.0	19	1.83	~ 80	98.3	230			
SEARCHLIGHT										
MASTHEAD LIGHT FORE + AFT	1	1.5	1	1.38	0.37	9.4	116/170			
SIDE LIGHTS	1	1.5	1	1.38	0.37	9.4	36			
COMPASS LIGHTS	1	1.5	1	1.38	0.14	9.4	12			
POOP LIGHTS	1	1.5	1	1.38	0.37	9.4	260			
CARGO LIGHTS on both masts	1	3.5	1	1.78	4.6	15.5	92/126			
ARC LAMPS										
HEATERS (portable)	1	2.5	1	1.78	10.9/37	15.5	36/24			

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP	1	1	10	19	0.82	25.6	38.1	27		
CIRC. SEA WATER PUMPS										
FRESH WATER PUMPS for bridge deck	1	1	2.5	1	1.78	5.6	15.5	24		
AIR COMPRESSOR										
FRESH WATER PUMP	1	1	4	19	0.82	17.6	22.1	72		
ENGINE TURNING GEAR	1	1	35	19	1.53	83	84.7	60		
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
CIRCULATING PUMP FOR LAUNCH EXHAUST BOILER	1	1	10	19	0.82	34	38.1	51	Rubber	Lead covered and armoured.
WINCHES, AFT										
Oil purifier	2	1	6	19	0.64	each 25.6	28.7	8		
STEERING GEAR										
(a) MOTOR GENERATOR	1	1	50	19	1.83	88/65	98.3	98		
(b) MAIN MOTOR	1	1	50	19	1.83	65	98.3	17		
WORKSHOP MOTOR										
VENTILATING FANS										
LATHE	1	1	4	19	0.52	17.6	22.1	26		
Grinding stone	1	1	1.5	1	1.38	4.5	9.4	28		
Drilling mach.	1	1	4	19	0.52	17.6	22.1	27		
DEMAR - Hoist Dev.	1	1	35	19	1.53	79	84.7	28		

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

ALLGEMEINE ELEKTRICITÄTS-GESELLSCHAFT
Electrical Engineers ABTEILUNG SCHIFFBAU

COMPASSES.

Distance between electric ~~generators~~ or motors and standard compass about 12 metres

Distance between electric ~~generators~~ or motors and steering compass about 10 metres

The nearest cables to the compasses are as follows:—

A cable carrying 0.2 Ampères close to feet from standard compass close to 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 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 nil degrees on course in the case of the standard compass, and nil degrees on course in the case of the steering compass.

DEUTSCHE WERFT
AKTIENGESELLSCHAFT

Builder's Signature. Date 19. 1. 38.

Is this installation a duplicate of a previous case yes If so, state name of vessel NORLYS, Hamburg Rep. No. 22061-8.10.36
REGULUS " No. 22091-7.11.36.

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

this Electric Installation are of good quality. As the conductors used are of the German Standard the Society's Rules regarding to conductors have been applied generally.

The installation has been fitted under Special Survey in accordance with the approved plan, the Secretary's letter and otherwise in compliance with the requirements of the Rules and is eligible in my opinion to be classed in the Society's Register Book.

Total Capacity of Generators 44 Kilowatts.

The amount of Fee ... RM 520.-

When applied for,

7.7.1938

When received,

4.2.1938

Travelling Expenses (if any) £

Committee's Minute

TUE. 1 FEB 1938

Assigned

See other I.C. report

Friedrich H. Röhrs
Surveyor to Lloyd's Register of Shipping.

750,036.— Transfer.
The Surveyors are requested not to write on or below the space for Committee's Minute.



© 2020

Lloyd's Register
Foundation