

REPORT ON ELECTRICAL EQUIPMENT.

No. 22829

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 5th July 1938 When handed in at Local Office

Port of

HAMBURG

Date, First Survey 16th MayLast Survey 21st June 1938.

(Number of Visits.....)

No. in Survey held at

Hamburg - Harburg

Reg. Book.

on the Single Screw Motor Vessel

GOLDFINDER

Tons {
Gross
Net

Built at

Hamburg - Harburg

By whom built

G. Reusch Lun. K. G.

Yard No. 636

When built 1938

Owners

A/S Nortrade

Port belonging to

Fronshjem

Contract No.

When fitted 1938

Electric Light Installation fitted by

Heinrich G. Hammer

Is the Vessel fitted for carrying Petroleum in bulk

no

System of Distribution

single pole - hull return

volts, Power

volts.

Pressure of supply for Lighting

110

volts, Heating

110

Power

Direct or Alternating Current, Lighting

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

are they compound wound

yes

Generators, do they comply with the requirements regarding temperature rise

yes

are they over compounded 5 per cent.

yes

Where more than one generator is fitted are they arranged to run in parallel

yes

Have certificates of test results for machines under 100 kw. been submitted and

series with each shunt field

yes

approved

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing

certificate attached

Have certificates for generators under 100 kw. been supplied and approved

yes

Are all terminals accessible, clearly marked, and furnished with sockets

yes

Are the lubricating arrangements of the generators as per Rule

yes

Position of Generators

engine room

Port side

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

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

Earthings, are the bedplates and frames of the generating plant efficiently earthed

yes

are the prime movers and their respective generators

Main Switch Boards, where placed

engine room

Port side above generator

in metallic contact

yes

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

yes

are they constructed wholly of durable, non-ignitable non-absorbent

materials

yes

is it of an approved type

yes

non-hygroscopic insulating material, and the slab similarly insulated from its framework

yes

is the non-hygroscopic insulating material of an approved

type

yes

and is the frame effectively earthed

yes

Are the fittings as per Rule regarding: - spacing or shielding of live parts

type

yes

accessibility of all parts

yes

absence of fuses on back of board

yes

temperature rise of

omnibus bars

yes

are moving parts of switches alive in the

"off" position

no

are any fuses fitted on the live side of

switches

no

Main Switchgear, description of switchgear for each generator and each outgoing circuit

For the generators A single pole fuse and a single pole switch on the insulated pole

For each outgoing circuit 3.5 kV. AUTOMATS - circuit breakers or a single pole fuse.

Are turbine driven generators fitted with emergency trip switch as per rule

yes

Are cupboards or compartments containing switchboards composed of

fire-resisting material or lined with approved material

yes

Instruments on main switchboard

volumeters

yes

synchronising device for paralleling purposes

yes

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

yes

Switches, Circuit Breakers and Fusible Cut-outs,

do these comply with the requirements of the Rules

are the fusible cutouts of an approved type

yes

have the reversed

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current protection devices been tested under working conditions. are all fuses labelled as per rule *yes*

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

Cables: Single, ~~main~~ *main* or multicore *yes* are the cables insulated and protected as per Tables *IV, V, X, XI, XII or XIII* of the Rules generally *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 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 *yes* or waterproof insulating tape *yes* **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 laid under machines or floorplates *yes* if so, are they adequately protected *in steel tubes*

Are cables in machinery spaces, galleys, lavatories, bathrooms and lavatories lead covered or run in conduit *yes* *lead covered*

Support and Protection of Cables, state how the cables are supported and protected *lead covered and armoured cables supported by clips on deck where exposed to risk of damage protected by tubes*

If cables are run in wood casings, are the casings and caps secured by screws *yes*, are the cap screws of brass *yes*, are the cables run in separate grooves *yes* 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 *-*

Joints in Cables, state if any, and how made, insulated, and protected *watertight 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*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *each conductor to the ship's structure of the same area as the corresponding conductor of the insulated portion*, 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 *yes*

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* *A small 12 volt battery has been fitted for supplying current to ignition coils in main motor cylinders, only required for first starting the motor in very cold weather.*

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 *yes*

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

where are the controlling switches situated *yes*

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 *yes* whether fixed or portable *yes*, are their fittings as per Rule *yes*

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* 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 *yes* and *yes*

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing *yes* have certificates for all motors for essential services been supplied and approved *yes* **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 *yes* 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 flameproof type approved for use in dangerous spaces *yes*

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule *yes* are they suitably stored in dry situations *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	3	110	27.2	1000	2-cyl - 45C.5A Diesel eng.	Diesel oil	170°F.	
AUXILIARY ...									
EMERGENCY ...									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet. <i>est. 100.</i>	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter. <i>mm.</i>	Circuit.	Rule.			
MAIN GENERATOR ...	1	6	19	0.64	27	28.7	8	Rubber	In accommodation spaces lead covered. all other cables lead covered and armoured.
EQUALISER CONNECTIONS ...									
AUXILIARY GENERATOR ...									
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER } MOTOR									
TRANSFORMER } GENERATOR ...									
ENGINE ROOM ...	1	1.5	1	1.38	1.0	9.4	50		
BOILER ROOM ...									
2 AUXILIARY SWITCHBOARDS ...									
Navigation Control board	1	2.5	1	1.78	1.0	15.5	15		
Subst. available in fore ships	1	2.5	1	1.78	2.0	18.5	40		
ACCOMMODATION ...	1	1.5	1	1.38		9.4	54		
Alleyway - WC + STORE	1	1.5	1	1.38		9.4	36		
FRESH-Water Heaters in shower - bath.	1	2.5	1	1.78	12	18.5	18		
Lighting in wheel house (compass light)	1	1.5	1	1.38	1	9.4			
WIRELESS ...									
SEARCHLIGHT ...									
MASTHEAD LIGHT ...	1	1.5	1	1.38	0.20	9.4	45		
SIDE LIGHTS ...	1	1.5	1	1.38	0.37	9.4	2 x 8		
COMPASS LIGHTS ...	1	1.5	1	1.38	0.14	9.4	12		
POOP LIGHTS ...	1	1.5	1	1.38	0.20	9.4	16		
CARGO LIGHTS									
Batteries for ignition coils	1	4	19	0.62	6	22.1	8		
Heaters ...									

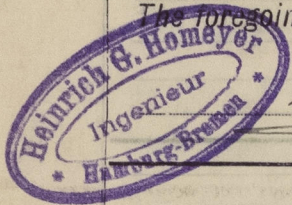
MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ...										
MAIN BILGE LINE PUMPS ...										
GENERAL SERVICE PUMP ...										
EMERGENCY BILGE PUMP ...										
SANITARY PUMP ...										
CIRC. SEA WATER PUMPS ...										
CIRC. FRESH WATER PUMPS ...										
AIR COMPRESSOR ...										
FRESH WATER PUMP ...										
ENGINE TURNING GEAR ...										
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS ...										
OIL FUEL TRANSFER PUMP ...										
WINDLASS ...										
WINCHES, FORWARD ...										
WINCHES, AFT ...										
STEERING GEAR—										
(a) MOTOR GENERATOR ...										
(b) MAIN MOTOR ...										
WORKSHOP MOTOR ...										
VENTILATING FANS ...										

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The Electrical Equipment is installed in accordance with the approved plans.

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

The foregoing is a correct description.



Heinrich G. Homeyer

Electrical Engineers.

Date *30 June '38.*

COMPASSES.

Minimum distance between electric generators ~~or motors~~ and standard compass *about 7 metres*

Minimum distance between electric generators ~~or motors~~ and steering compass *about 7 metres*

The nearest cables to the compasses are as follows:—

A cable carrying *0.14* Amperes *close to* ~~feet from~~ standard compass *close to* ~~feet from~~ steering compass.

A cable carrying _____ Amperes _____ feet from standard compass _____ 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 *nil* degrees on _____ course in the case of the standard compass; and *nil* degrees on _____ course in the case of the steering compass.

G. Renck jun.
Kompagniegesellschaft

Builder's Signature.

Date *5th July 1938*

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. *Material and workmanship of this*)

Electrical Installation one of good quality. As the conductors used are of the German Standard, the Society's Rules regarding conductors have been applied generally.

The installation has been fitted under Special Survey in accordance with the approved plans and instructions thereto and otherwise in compliance with the requirements of the Rules.

As during outfit the Owner ordered a fresh water heater and a small battery supplying current to ignition coils in main motor, a new plan showing the installation as actually fitted on board has been prepared and a copy of same is attached herewith.

The electric installation is eligible in my opinion to be classed.

noted J.G.J.
13.7.38

Total Capacity of Generators *3* Kilowatts.

The amount of Fee ... *RM: 100/-* When applied for, ...

Travelling Expenses (if any) £ : : *28.12.38* When received. *28/12*

H. Röhrs

Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 15 JUL 1938*

Assigned *See above & report*

2m. 12.36.—Transfer.
The Surveyors are requested not to write on or below the space for Committee's Minute.

? minimum fee 100 RM



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