

Rpt. 13.

No. 4864.

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

30 DEC 1936

Received at London Office

Date of writing Report 22nd Dec. 1936 When handed in at Local Office

Port of BREMEN

No. in Survey held at WESERMÜNDE

Date, First Survey 17th Nov. 36 Last Survey 11th Dec. 1936

Reg. Book.

(Number of Visits.....9.....)

08529 on the STEEL SC. TRAWLER NORTHERN ISLES

Tons { Gross 655
Net 243

Built at WESERMÜNDE

By whom built DESCHIMAG, WERK : SEEBECK Yard No. 569

When built 1936

Owners MAC LINE LTD.

Port belonging to LONDON

Electric Light Installation fitted by WICHMANN & Co

Contract No. When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk NO

System of Distribution Two Wire System

Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110 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 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 yes 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 Engine Room starb. 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 — 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 Engine Room starb. side

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 marble, 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 micamite or other

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

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 outgoing circuit a double pole switch and a fuse on each pole

For each generator a double pole linked 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 1 ammeters 2

voltage meters 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

2 earth lamps 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

current protection devices been tested under working conditions

construction, protection, insulation, material, and position of these as per rule

Cables: Single, twin, concentric, or multicore *simplex* *min* are the cables insulated and protected as per Tables IV, V, X or XI of the Rules

If the cables are insulated otherwise than as per Rule, are they of an approved type

any point of the installation under maximum load *at least 5 volts*

area of 0.04 square inch and above provided with soldering sockets

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 *no paper insulated cables*, or waterproof insulating tape

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 *cables in exposed position are protected by strong steel iron plating; all cables are lead covered*

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 *main switch 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 or lead*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas

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

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*

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 *none*

how are the cables led

where are the controlling switches situated

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 *none*, are air heaters constructed and fitted as per Rule *yes*

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 *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* Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule *yes*

are required, are these fitted as per Rule *yes* 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 fitted 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 type approved by the Home Office *yes*

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

Joint Boxes, Section and Distribution Boards, is the

Fall of Pressure, state maximum between bus bars and

Cable Sockets, are the ends of all cables having a sectional

Paper Insulated and Varnished Cambric Insulated Cables,

Cable Runs, are the cables fixed as far as possible in accessible positions

are the cap screws of brass

are the cables run in

are the clips spaced as per Table VIII

are the fuses double pole

are the switches and fuses grouped in a position accessible only to the officers on watch

are the fuses double pole

are they constructed and fitted as per Rule

are they protected from mechanical injury and damage from

are their axes of rotation fore and aft

if situated near unprotected woodwork or other combustible

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

are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule

are these fitted as per Rule

are 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

are all fuses of the fitted cartridge type

are they of an approved type

are they of a self-contained, battery-fed type approved by the Home Office

have spares been supplied as per Rule

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	8	115	69.5	450	Steam Engine		
AUXILIARY	1	4	115	75	1100	Steam Engine	Diesel Oil	above 150°F
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	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. per Sq. Foot.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	35	19	1.53	69.5	83	12	rubber	lead covered & wire armoured
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	1	10	19	0.82	35	37	15	-	-
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM	1	1.5	1	1.83	3	7.8	15	-	-
BOILER ROOM	1	1.5	1	1.83	2.5	7.8	15	-	-
AUXILIARY SWITCHBOARDS									
STATION aft	1	2.5	1	1.78	11	12.9	35	-	-
forward	1	1.5	1	1.78	4.6	7.8	40	-	-
amidships	1	16	19	1.04	44	46	50	-	-
Whellhouse	1	10	19	0.82	27	37	10	-	-
ACCOMMODATION	1	1.5	1	1.78	3	7.8	15	-	lead covered
WIRELESS	1	6	19	0.64	20	31	14	-	lead covered & wire armoured
SEARCHLIGHT	1	1.5	1	1.78	5	7.8	10	-	-
MASTHEAD LIGHT	1	1.5	1	1.78	1	7.8	100	-	-
SIDE LIGHTS	1	1.5	1	1.78	1	7.8	10	-	-
COMPASS LIGHTS	1	1.5	1	1.78	0.5	7.8	10	-	-
POOP LIGHTS	1	1.5	1	1.78	1	7.8	70	-	-
CARGO LIGHTS	1	1.5	1	1.78	3.5	7.8	25	-	-
ARC LAMPS									
HEATERS									

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. per Sq. Foot.	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										
Motor for hiro	1	1	2.5	1	1.78	12	12.9	15	rubber	lead covered & wire armoured
oil pump										

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.

Wiechmann & Co.
Wiechmann & Co.

Electrical Engineers.

Date *Bremen*
11. Dec. 1936

COMPASSES.

Distance between electric generators or motors and standard compass *5 m*

Distance between electric generators or motors and steering compass *7 m*

The nearest cables to the compasses are as follows:—

A cable carrying *7* Amperes *10* feet from standard compass *8* feet from steering compass.

A cable carrying *1* Amperes *2* feet from standard compass *2* feet from steering compass.

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

Deutsche Schiff- und Maschinenbau Aktiengesellschaft

H. Hoff

H. Hoff

Builder's Signature.

Date.

Is this installation a duplicate of a previous case *yes* If so, state name of vessel *NORTHERN PRIDE*

General Remarks (State quality of workmanship, opinions as to class, etc. *This Electric Installation has*)

*been made in accordance with the approved plans, the Purveyor's
letter, and in conformity with the requirements of the Rules. All the
conductors are of German Standards. Materials used in the construction,
and the workmanship are of good quality.*

*This Installation has been tested on completion and found
satisfactory in all respects.*

Noted

Mar

31.12.36

Total Capacity of Generators *12* Kilowatts.

The amount of Fee ... *RM 240.-*

When applied for,

17.12.1936

Travelling Expenses (if any) £ *—*

When received,

7.1.1937

A. Carstensen

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. JAN 8 1937

Assigned

See Bmr 1861



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Foundation