

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report *11th V.* 19*34* When handed in at Local Office *1934* Port of *Bremen & Vienna*  
 No. in Survey held at *Augsburg & Budapest* Date, First Survey *18.9.33* Last Survey *11.11.33* 19*34*  
 Reg. Book. *2.3.34* (Number of Visits.....)  
 on the *Twin Screw vessel motor tanker, named, "Danube Shell II"* Tons { Gross  
 Net  
 Built at *Budapest (Hungary)* By whom built *Ganz & Co. Ltd.* Yard No. *1430* When built *1933/34*  
 Owners *International Inland Waterway Co* Port belonging to *London*  
 Electric Light Installation fitted by *Messrs. Ganz & Co. Ltd. Budapest* Contract No. When fitted  
 Is the Vessel fitted for carrying Petroleum in bulk *yes*

## System of Distribution

Pressure of supply for Lighting *220* volts, Heating *—* volts, Power *220* 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 *—*, 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*

## Position of Generators

*Starboard side of the Main 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 *—*

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

are their axes of rotation fore and aft *—*

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 the Main engine 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 *—*

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 *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*, proportion of omnibus bars *130 mm*

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 *I. Panel: 1 DP over-current and reverse current cut. Switch and Instruments for the generator, 1 DP throw over switch for outside supply; II. Panel: 8 DP Switch fuse equipments for Power Distribution;*

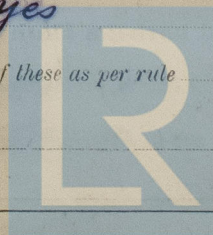
*III. Panel 3 DP overcurrent switches for Light Distribution, 1 DP Main Switch and 1 DP throw over switch for outside supply*  
 Instruments on main switchboard *1* ammeters *1* voltmeters *—* synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system *one Earth Testing*

*Voltmeter with Alternative Switch and comparative Resistance, two Earth-lamps.*

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*



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

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load 3%

**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 on Deck they are protected by galvanised iron tubes, under Deck they are supported by iron constructions

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,** 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 all joint-boxes are of the waterproof type and on Deck they are drip-flame and explosionproof watertight

**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 of lead and brass

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas all lamp-sockets and connectors in the Rooms for the ship personal are earthed by means of galv. copper wire of 10<sup>th</sup> sectional area 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 to Emergency supply a Storage Battery is provided, situated on Upper Deck, and governed by a personally handled throw over switch

**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 yes

**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 by flame- and explosionproof fittings in galvanised iron tubes, how are the cables led in the wheelhouse on the Bridge

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected by flame- and explosionproof fittings in galvanised iron tubes

where are the controlling switches situated in the wheelhouse on the Bridge

**Searchlight Lamps,** No. of 2, whether fixed or portable fixed, are their fittings as per Rule yes

**Arc Lamps,** other than searchlight lamps, No. of —, 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, but 3 Motors on Upper Deck are flame and explosion-proof, are they protected from mechanical injury and damage from water, steam or oil yes, are their axes of rotation fore and aft partly, 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 — 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 —

**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 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	30	230	131	550	a heavy oil engine	gas oil		
AUXILIARY ...									
EMERGENCY ...									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ...	1	95 <sup>sq. ins.</sup>			131		2 x 20 Mts	rubber	Lead covered and galv. iron wired
EQUALISER CONNECTIONS ...									
AUXILIARY GENERATOR...									
EMERGENCY GENERATOR ...									
ROTARY MOTOR TRANSFORMER GENERATOR...									
ENGINE ROOM...									
BOILER ROOM...									
AUXILIARY SWITCHBOARDS ...	1	25 <sup>sq. ins.</sup>			30		2 x 26 Mts	"	"
" " " for lighting	1	4 "			8		2 x 20 "	"	"
ACCOMMODATION ...									
WIRELESS ...									
SEARCHLIGHT ...	1	15 <sup>sq. ins.</sup>			23		2 x 30 Mts	"	"
MASTHEAD LIGHT ...	1	1.5 "			0.18		2 x 40 "	"	"
SIDE LIGHTS ...	1	1.5 "			0.18		2 x 5 "	"	"
COMPASS LIGHTS ...									
POOP LIGHTS ...	1	1.5 "			0.18		2 x 60 "	"	"
CARGO LIGHTS ...	1	1.5 "			0.18		2 x 30 "	"	"
ARC LAMPS ...									
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 Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ...										
MAIN BILGE LINE PUMPS ...	1	1	10 <sup>sq. ins.</sup>			32.5		2 x 25 Mts	rubber	Lead covered and galv. iron wired
GENERAL SERVICE PUMP ...										
Forward EMERGENCY BILGE PUMP ...	1	1	25 "			30		2 x 40 "	"	"
SANITARY PUMP ...	1	1	4 "			19.6		2 x 25 "	"	"
CIRC. SEA WATER PUMPS ...										
CIRC. FRESH WATER PUMPS...										
AIR COMPRESSOR ...										
Fire FRESH WATER PUMP ...	1	1	16 "			47		2 x 10 "	"	"
ENGINE TURNING GEAR...										
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS ...										
OIL FUEL TRANSFER PUMP ...	1	1	4 "			16		2 x 80 "	"	"
WINDLASS ...	1	1	25 "			31		2 x 70 "	"	"
WINCHES, FORWARD ...										
WINCHES, AFT ...	1	1	25 "			69		2 x 25 "	"	"
STEERING GEAR—										
(a) MOTOR GENERATOR...										
(b) MAIN MOTOR ...										
WORKSHOP MOTOR ...										
VENTILATING FANS ...										
Oil Cargo Pump	1	1	35 "			70		2 x 15 "	"	"
Battery Charging Motor generator set:										
Motor	1	1	10 "			34.5		2 x 15 "	"	"
Generator	1	1	16 "			45.5		2 x 15 "	"	"



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.

Electrical & Mechanical Engineers,  
Railway-Carriage Manufacturers & Shipbuilders

Electrical Engineers.

Date 9th May 1934.

#### COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying Ampères feet from standard compass feet from steering compass.

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Have the compasses been adjusted with and without the electric installation at work at full power

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

Builder's Signature. Date

Is this installation a duplicate of a previous case If so, state name of vessel

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

In my opinion the vessel in which these electric fittings are fitted will be eligible for the notation of LMC April 34.

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15/5/34  
al

Total Capacity of Generators 30 Kilowatts.

The amount of Fee

Inclusive of 19/5/34

Fee see

Travelling Expenses (if any) £

Full Rpt.

When received, 19/

Committee's Minute

JUN 1934

Assigned

Surveyor to Lloyd's Register of Shipping.



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