

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

JUN 16 1938

Received at London Office

Date of writing Report 30/5 1938 When handed in at Local Office 19 Port of Copenhagen

No. in Survey held at Odense Date, First Survey 5/4 Last Survey 28/5 1938
Reg. Book. 39584 on the Single S. Motor Tanker "OTINA" (Number of Visits 9)

Tons { Gross 6216.62
Net 3603.90

Built at Odense By whom built Odense Maskarbejdsby Yard No. 73 When built 1938

Owners The Anglo Saxon Petroleum Co. Ltd. Port belonging to London

Electric Light Installation fitted by De Danske Elektricitets Compagni Contract No. — When fitted 1938

Is the Vessel fitted for carrying Petroleum in bulk yes.

System of Distribution Two conductor insulated system.

Pressure of supply for Lighting 110 volts, Heating — 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 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 No, 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.

Are the lubricating arrangements of the generators as per Rule yes.

Position of Generators placed in the starboard side of the motor room, floor level.

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 in the starboard side of the motor 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 of marble, 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 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 FOR EACH GENERATOR:

One 2 lb pole circuit breaker with a fuse on each pole. OUTGOING CIRCUITS: One

2 lb pole circuit breaker with a fuse on each pole.

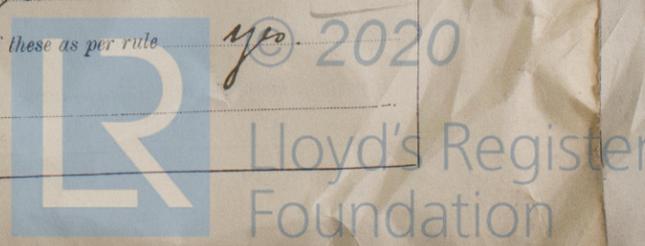
Instruments on main switchboard 2 ammeters 2 voltmeters — synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system 2 sets of 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 single are the cables insulated and protected as per Tables IV and V of the Rules yes.

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

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 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.

Support and Protection of Cables, state how the cables are supported and protected steel wire braided cables used, supported by steel clips, or deck and when necessary laid in galv. steel 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, 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 yes.

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 lead.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas 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, 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 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 lamp in pump room casings contained in gaslight steel boxes with sight glasses in through steel tubes carries gaslight into fittings from outside, how are the cables led on the switchboard in the chart room where are the controlling switches situated on the switchboard in the chart room.

Searchlight Lamps, No. of not fitted, whether fixed or portable yes, are their fittings as per Rule yes.

Arc Lamps, other than searchlight lamps, No. of yes, 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 EXCEPT CRANK MACHINE OIL SEPARATOR VENTILATOR, 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.

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 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.

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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	16	110	145	390	1 cyl. steam engine		
AUXILIARY/MAIN	1	16	110	145	390	1 cyl. steam boat		
EMERGENCY						oil engine	Diesel oil	>150° F.
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length (Lead and Return.) Feet in	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins. Feet	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	95	19	2.52	145	147	26	india	lead covered
EQUALISER CONNECTIONS								rubber	and steel wire
MAIN GENERATOR	1	95	19	2.52	145	147	11		armoured
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	1	16	7	1.70	38	48.7	26	"	"
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
FORECASTLE A	1	16	7	1.70	12	48.7	214	"	"
NAVIGATION D	1	16	7	1.70	18	38	120	"	"
MIDSHIP E	1	16	7	1.70	35	48.7	112	"	"
AFT F	1	16	7	1.70	34	48.7	38	"	"
WALL PLUGS ON DECK H	1	16	7	1.70	20	38	20	"	"
ACCOMMODATION									
WIRELESS	1	16	7	1.70	18	48.7	120	"	"
SEARCHLIGHT	1	35	19	1.83	-	77.6	230	"	"
MASTHEAD LIGHT	1	1.5	1	1.38	0.5	10	114	"	"
SIDE LIGHTS	1	1.5	1	1.38	0.5	10	22	"	"
COMPASS LIGHTS									
POOP LIGHTS	1	1.5	1	1.38	0.5	10	170	"	"
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length (Lead and Return.) Feet in	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins. Feet	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	1	1	70	19	2.16	60	123.7	30	RUBBER LEAD COVERED	AND STEEL WIRE
ENGINE REVERSING GEAR										ARMOURED
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR	3									
VENTILATING FANS	1	1	35	19	1.53	76	85	62	"	"
OIL LEVEL SUPPLY PUMP	1									
LUBR. OIL PURIFIER	1	1	35	17	1.53	20	77.6	17	"	"

MS 5770 - 1911M

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.

Dansk *Selskab* Compagni
Salsomina

Electrical Engineers.

Date 2-6-1938

COMPASSES.

Distance between electric generators or motors and standard compass 35'
 Distance between electric generators or motors and steering compass 28'

The nearest cables to the compasses are as follows:—

A cable carrying 2.5 Amperes 10 feet from standard compass 6 feet from steering compass.
 A cable carrying 18 Amperes 17 feet from standard compass 15 feet from steering compass.
 A cable carrying 0.25 Amperes 10" feet from standard compass 10" 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 any course in the case of the standard compass, and 0 degrees on any course in the case of the steering compass.

ODENSE STAALSKIBSVÆRFT
 VED A. P. MÖLLER

E. J. Møller

Builder's Signature. Date

Is this installation a duplicate of a previous case yes. If so, state name of vessel 17/3 "ENA"

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

The electric light & power installation herein described has been fitted in accordance with the Society's Rules, the approved plans and the requirements contained in the Surveyor's letter E dated 26/1 and 1/2 1938. The material used for the installation is of good description throughout and the workmanship of high quality. On completion the whole installation was tested as per Rules and under full power working conditions and found satisfactory.

W. J. J.
 22/6/38.

Total Capacity of Generators 32 Kilowatts.

The amount of Fee ... Kr. 515,20 { When applied for, 15.6.19.38
 Travelling Expenses (if any) £ : : { When received, 28.6.19.38
286.

W. J. J.
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 24 JUN 1938

Assigned

See Cpr. 7E 10589



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Im. 9.30.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)