

Rpt. 13.

No. 4609

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 20th Dec. 1937 When handed in at Local Office 20th Dec. 1937 Port of Montreal

No. in Survey held at

Level P.O.

Date, First Survey 2nd Nov.Last Survey 6th Dec. 1937

Reg. Book.

(Number of Visits 5)

on the

M.V. "Dusselike"

Tons

Gross 400.08

Net 208.78

Built at

Level P.O.

By whom built

Mansuan Shipyard Ltd. Yard No. 56

When built

1937-12

Owners

Imperial Oil Shipping Co. Ltd.

Port belonging to

Vancouver B.C.

Electric Light Installation fitted by

Mansuan Shipyard Ltd.

Contract No.

When fitted 1937

Is the Vessel fitted for carrying Petroleum in bulk

Yes

System of Distribution

Two wire direct current

Pressure of supply for Lighting

110

volts, Heating

volts, Power

220

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

Generators, do they comply with the requirements regarding rating

Yes

are they compound wound

Compound

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

Yes

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

Three Port. One Starboard

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

Forward end of 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 micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework

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

D.P.

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

Double Pole

Magnetic blow out air break circuit breaker with overload and reverse current trips on one pole and overload only on the other single pole equalizers switched in parallel with main circuit breaker

Instruments on main switchboard

3

ammeters

4

voltmeters

2

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 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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Single Cable
Cables: Single, twin, concentric, or multicore *single & twin* 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 *Yes*

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 *In iron trough*
Engine room in Conduit piping

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 *6 in best iron H.P. Box with screw block connectors*

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*, 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*, 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 *no*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *Pump room - explosion proof fixtures with guards*, how are the cables led *wired and controlled outside of pump room*

where are the controlling switches situated *Outside on deck with switches*

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 *1*, 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*

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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN <i>Power</i> ...	1	40	250	160	1200	<i>Diesel Engine</i>	<i>Distill oil</i>	<i>about 150°</i>	
AUXILIARY <i>Power</i> ...	1	40	250	160	1200	"	"	"	
EMERGENCY <i>Power</i> ...	1	5	110	45.5	1800	<i>A.C. 220 Volt motor 8 1/2 H.P. 55 amp.</i>	"	"	
ROTARY TRANSFORMER	1	15	220	68	1750	<i>a.b. 440/220 H.P. 2 hp used as motor</i>	"	"	

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	✓	000		160	175	20 ft	<i>Rubber</i>	<i>Conduit pipe</i>
EQUALISER CONNECTIONS	1	✓	000		160	175	20 ft	"	"
AUXILIARY GENERATOR ...	1	✓	000		160	175	30 ft	"	"
EMERGENCY GENERATOR	1	✓	6		45	50	25.	"	"
ROTARY TRANSFORMER	1	✓	1		90	100	45.	"	"
ENGINE ROOM ...	1	✓	4		68	70	30.	"	"
BOILER ROOM ...	✓	✓	14		2.5 ft	15	40.	"	"
AUXILIARY SWITCHBOARDS	✓	✓							
ACCOMMODATION ...	1		14		5 Amp.	15		"	<i>4 lead</i>
WIRELESS ...	✓								
SEARCHLIGHT ...	1		14		5	15		<i>A. & B. 4 lead</i>	
MASTHEAD LIGHT ...			14		1	10		"	<i>7 Conduit</i>
SIDE LIGHTS ...			14		1	10		"	"
COMPASS LIGHTS ...			14		1	10		"	"
POOP LIGHTS ...			14		2	10		"	<i>Conduit</i>
CARGO LIGHTS ...			14		2	10		"	"
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 ...	1	1	✓	6	-	40	50	50 ft	<i>A.C. lead</i>	<i>Conduit</i>
MAIN BILGE LINE PUMPS	1	1	✓	10	-	20	25	45.	"	"
GENERAL SERVICE PUMP ...	1	1		6		37.2	50	35.	"	"
EMERGENCY BILGE PUMP	1	1		10		14	25	10 "	"	"
SANITARY PUMP ...	1	1		14		5	15	10	"	"
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS...	1	1		14		3	15	35	"	"
AIR COMPRESSOR ...	1	1		10		18	25	50	"	"
FRESH WATER PUMP ...	1	1		14		2	15	50	"	"
ENGINE TURNING GEAR...	✓									
ENGINE REVERSING GEAR	✓									
LUBRICATING OIL PUMPS	✓									
OIL FUEL TRANSFER PUMP...	1	1		10		14	25	10 "	"	"
WINDLASS ...	1	1		6		21	25	100 "	<i>A.C. lead and armoured bronze</i>	
WINCHES, FORWARD	1	1		6		41	50	75	"	"
WINCHES, AFT	1	1		6		41	50	85	"	"
STEERING GEAR	1	1		14		1	15	45	"	<i>Conduit</i>
(a) MOTOR GENERATOR...										
(b) MAIN MOTOR ...	1	1		10		12	25	55	"	"
WORKSHOP MOTOR	✓									
VENTILATING FANS	✓									
3.6 cargo pumps	1	1		6		41	50	10 ft 30	"	"
2 " "	1	1		6		30	50	10 ft 15	"	"
Fire pump	1	1		6		41	50	20	"	"

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.

James Whitley

Electrical Engineers.

Date *29th Dec 1937.*

COMPASSES.

Distance between electric generators or motors and standard compass *40 feet*

Distance between electric generators or motors and steering compass *35 "*

The nearest cables to the compasses are as follows:—

A cable carrying *5* Amperes *5'* feet from standard compass ✓ feet from steering compass.

A cable carrying *25 WATT* Amperes *LIGHT- IN COMPASS* feet from standard compass ✓ feet from steering compass.

A cable carrying *25 "* 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 *Without Electric installation at work*

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.

James Gordon
for Marine Industries Ltd.

Builder's Signature.

Date

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.)

This vessel has been fitted with an electric light installation as above and the workmanship is good. On completion it was tested out under full working conditions and found satisfactory.

Total Capacity of Generators *Power 95* Kilowatts.
lighting 5.

The amount of Fee ... £ ✓ : : When applied for, 19.
Travelling Expenses (if any) £ : : When received, 19.

Geo. Allan
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 3 JUN 1938

Assigned

See Inst. Rpt. 4609



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