

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 1 JUN 1931

Date of writing Report 7th May 1931. When handed in at Local Office 11/5/1931. Port of YOKOHAMA.

No. in Survey held at YOKOHAMA. Date, First Survey 27th January Last Survey 4th May 1931.
Reg. Book. (Number of Visits 14)

on the Steel T. Sc. M.V. "TEIYO MARU" Tons { Gross 9849.86
Net 5722

Built at Yokohama By whom built Yokohama Dock Co. Ltd. Yard No. 181 When built 1931

Owners NIPPON TANKER KABUSHIKI KAISHA Port belonging to YOKOHAMA.

Electric Light Installation fitted by Yokohama Dock Co. Ltd Contract No. 181 When fitted 1931.

Is the Vessel fitted for carrying Petroleum in bulk yes.

System of Distribution Two wire insulated system

Pressure of supply for Lighting 100 Volts volts, Heating volts, Power 100 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 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 Bottom platform, starboard side of 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 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 Bottom platform, starboard side 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

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 yes

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

one circuit breaker and two fuses. Outgoing current 14 Double pole, double throw switches with fuses.

Instruments on main switchboard Two ammeters Two 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 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.

Cables: Single, twin, concentric, or multicore Single 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 4 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 The cables are enclosed in steel pipes in open spaces along the decks (i.e. weather decks.)

Support and Protection of Cables, state how the cables are supported and protected Metal clips and cables are enclosed in steel pipes along decks

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 Fixed by screws in cast iron joint boxes and insulated by bakelite.

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 gas proof casings, 9 guards.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected gas proof casings, how are the cables led through steel tubes

where are the controlling switches situated outside the spaces.

Searchlight Lamps, No. of One, whether fixed or portable fixed, 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 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	<u>Two</u>	<u>25</u>	<u>110</u>	<u>227</u>	<u>550</u>	<u>Steam engines.</u>	<u>✓</u>	<u>✓</u>
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	<u>1</u>	<u>49850</u>	<u>61</u>	<u>.103</u>	<u>227</u>	<u>332</u>	<u>56</u>	<u>Rubber</u>	<u>Lead Covered, Armoured & Braided</u>
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY MOTOR	<u>1</u>	<u>.00701</u>	<u>4</u>	<u>.036</u>	<u>10</u>	<u>24</u>	<u>20</u>	<u>"</u>	<u>" " "</u>
TRANSFORMER GENERATOR	<u>1</u>	<u>.00701</u>	<u>4</u>	<u>.036</u>	<u>15</u>	<u>24</u>	<u>16</u>	<u>"</u>	<u>" " "</u>
ENGINE ROOM	<u>1</u>	<u>.02214</u>	<u>7</u>	<u>.064</u>	<u>33</u>	<u>46</u>	<u>20</u>	<u>"</u>	<u>Lead Covered, Armoured</u>
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION ENGINEERS	<u>1</u>	<u>.00701</u>	<u>4</u>	<u>.036</u>	<u>16</u>	<u>24</u>	<u>80</u>	<u>"</u>	<u>Lead Covered, Armoured & Braided</u>
" <u>apt</u>	<u>1</u>	<u>.02214</u>	<u>7</u>	<u>.064</u>	<u>18</u>	<u>46</u>	<u>224</u>	<u>"</u>	<u>" " "</u>
" <u>Middle & fwd.</u>	<u>1</u>	<u>.06500</u>	<u>19</u>	<u>.064</u>	<u>39</u>	<u>83</u>	<u>480</u>	<u>"</u>	<u>" " "</u>
WIRELESS	<u>1</u>	<u>.02214</u>	<u>4</u>	<u>.064</u>	<u>20</u>	<u>46</u>	<u>570</u>	<u>"</u>	<u>" " "</u>
SEARCHLIGHT	<u>1</u>	<u>.00701</u>	<u>4</u>	<u>.036</u>	<u>10</u>	<u>24</u>	<u>560</u>	<u>"</u>	<u>" " "</u>
MASTHEAD LIGHT	<u>1</u>	<u>.00194</u>	<u>3</u>	<u>.029</u>	<u>.4</u>	<u>7.8</u>	<u>330</u>	<u>"</u>	<u>" " "</u>
SIDE LIGHTS	<u>1</u>	<u>.00194</u>	<u>3</u>	<u>.029</u>	<u>.4</u>	<u>7.8</u>	<u>140</u>	<u>"</u>	<u>" " "</u>
COMPASS LIGHTS	<u>1</u>	<u>.00194</u>	<u>3</u>	<u>.029</u>	<u>.2</u>	<u>7.8</u>	<u>120</u>	<u>"</u>	<u>" " "</u>
POOP LIGHTS	<u>1</u>	<u>.00194</u>	<u>3</u>	<u>.029</u>	<u>.2</u>	<u>7.8</u>	<u>820</u>	<u>"</u>	<u>" " "</u>
CARGO LIGHTS	<u>1</u>	<u>.00194</u>	<u>3</u>	<u>.029</u>	<u>.2</u>	<u>7.8</u>	<u>300</u>	<u>"</u>	<u>" " "</u>
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	<u>✓</u>									
MAIN BILGE LINE PUMPS	<u>✓</u>									
GENERAL SERVICE PUMP	<u>✓</u>									
EMERGENCY BILGE PUMP	<u>✓</u>									
SANITARY PUMP	<u>✓</u>									
CIRC. SEA WATER PUMPS	<u>✓</u>									
CIRC. FRESH WATER PUMPS	<u>✓</u>									
AIR COMPRESSOR	<u>✓</u>									
FRESH WATER PUMP	<u>✓</u>									
ENGINE TURNING GEAR	<u>2</u>	<u>1</u>	<u>.19640</u>	<u>37</u>	<u>.083</u>	<u>145</u>	<u>184</u>	<u>260</u>	<u>Rubber</u>	<u>Lead Covered, Armoured & Braided</u>
ENGINE REVERSING GEAR	<u>✓</u>									
LUBRICATING OIL PUMPS	<u>✓</u>									
OIL FUEL TRANSFER PUMP	<u>✓</u>									
WINDLASS	<u>✓</u>									
WINCHES, FORWARD	<u>✓</u>									
WINCHES, AFT	<u>✓</u>									
STEERING GEAR—										
(a) MOTOR GENERATOR	<u>✓</u>									
(b) MAIN MOTOR	<u>✓</u>									
WORKSHOP MOTOR	<u>1</u>	<u>1</u>	<u>.00701</u>	<u>4</u>	<u>.036</u>	<u>21</u>	<u>24</u>	<u>160</u>	<u>Rubber</u>	<u>" " "</u>
VENTILATING FANS	<u>1</u>	<u>1</u>	<u>.06000</u>	<u>19</u>	<u>.064</u>	<u>59</u>	<u>83</u>	<u>160</u>	<u>"</u>	<u>" " "</u>
<u>Galleys Fans</u>	<u>2</u>	<u>1</u>	<u>.00701</u>	<u>4</u>	<u>.036</u>	<u>8.6</u>	<u>24</u>	<u>160</u>	<u>"</u>	<u>" " "</u>
<u>Full Oil Purifier</u>	<u>1</u>	<u>1</u>	<u>.00701</u>	<u>4</u>	<u>.036</u>	<u>12.1</u>	<u>24</u>	<u>200</u>	<u>"</u>	<u>" " "</u>

All Conductors are of annealed copper conforming to British Standard Specification No. 7. *Yes*
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules. *Yes*
 The foregoing is a correct description.

Escher. Electrical Engineers. Date *Apr 30 1931*

COMPASSES.

Distance between electric generators or motors and standard compass *42 feet*
 Distance between electric generators or motors and steering compass *36 feet*
 The nearest cables to the compasses are as follows:—
 A cable carrying *10* Ampères *12* feet from standard compass *14* feet from steering compass.
 A cable carrying *.2* Ampères *10* feet from standard compass *12* feet from steering compass.
 A cable carrying *✓* Ampères *✓* 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 *No*
 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.

J. Trushija Builder's Signature. Date *30/4/31*

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. _____)

The Electric appliances and Installation have been fitted onboard under Special Survey in accordance with the Rules. Materials & Workmanship good. After completion of fitting out all tried under full working conditions. Insulation and resistance tests as per the Rules carried out with satisfactory results.

This vessel's machinery & appliances are eligible in my opinion to have the record of Δ HMC S-31 in the Register Book.

It is submitted that this vessel is eligible for the RECORD.

Elect Light
JST 3/4/31

Total Capacity of Generators *50* Kilowatts.

The amount of Fee ... *YEN 275.00* : *9-5-1931* When applied for,
 Travelling Expenses (if any) £ *✓* : *7-7-1931* When received, *HUL*

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

Committee's Minute *FRI. 10 JUL 1931*

Assigned *Elect Light*

Im. 1228.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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