

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

30 DEC 1924

Date of writing Report 17. 11. 1924 When handed in at Local Office 1. 12. 1924 Port of GLASGOW.

Survey held at GLASGOW. Date, First Survey 11. 8. 24 Last Survey 19. 11. 1924  
(Number of Visits 14)

on the M. Y. ATAGO MARU Tons { Gross 7559 Net 4670

built at PORT GLASGOW. By whom built MESSRS LITHGOW & CO Yard No. When built 1924

owners NIPPON YUSEN K.K. Port belonging to TOKIO

Electric Light Installation fitted by MESSRS TALFORD GRIER & MCKAY Contract No. 462 When fitted 1924

System of Distribution DIRECT CURRENT TWO WIRE SYSTEM.

Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220. volts.

System or Alternating Current, Lighting DIRECT Power DIRECT.

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 overload YES, are they compound wound YES.

Are they over compounded 5 per cent. YES, if not compound wound state distance between each generator

Are there 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 and clearly marked YES, are they so spaced or shielded that they cannot be accidentally earthed, short circuited YES

Position of Generators ENGINE ROOM. MAIN PLATFORM PORT SIDE, Are the lubricating arrangements of the generators as per Rule YES.

Is the ventilation in way of the generators satisfactory YES, are they clear of all inflammable material YES.

Are generators situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

Are the generators protected from mechanical injury and damage from water, steam or oil YES, are their axis of rotation fore and aft YES

Are the bedplates and frames of the generating plant efficiently earthed YES, are the prime movers and their respective generators in metallic contact YES

Position of Switch Boards, where placed AFT BULKHEAD ENGINE RM AT STARTING PLATFORM.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a switch on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard YES

Are switchboards placed in accessible positions, free from inflammable gases and acid fumes YES.

Are switchboards 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 YES and YES

Are switchboards constructed wholly of durable, incombustible non-absorbent materials YES, is all insulation of high dielectric strength and of sufficiently high insulation resistance YES

Are switchboards insulated from the slab with mica or micanite and the slab similarly insulated from its framework YES, and is the insulation effectively earthed YES

Are the following fittings as per Rule, viz.:- spacing or shielding of live parts YES, accessibility of all parts YES, absence of fuses on back of board YES, proportion of omnibus YES

Are there individual fuses to voltmeter, pilot or earth lamp YES, connections of switches YES.

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

Position of REVERSE CURRENT CIRCUIT BREAKERS WITH TIME LAGS & EQUALISER SWITCHES.

Position of OUTGOING CIRCUITS - D.P. CIRCUIT BREAKERS

Number of instruments on main switchboard 3 ammeters 3 voltmeters synchronising device for paralleling purposes.

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

Position of EARTH LAMPS

Position of Fuses, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules YES

Position of Main and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule YES



**Insulation of Cables**, state type of cables, single or twin BOTH are the cables insulated and protected as per Tables III or IV of the Rules YES.

**Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load 2 1/2%

**Cable Sockets and other connections**, are the ends of all cables having a sectional area of 0.007 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 MAIN CABLES CARRIED ON MAIN STIFFENERS RUNNING FORE & AFT. WHOLE LENGTH OF HOLD BETWEEN DECK & PROTECTED BY STEEL PLATES WHERE NECESSARY.

If cables are run in wood casings, are the casings and caps secured by screws —, are the cap screws of brass —, are the cables run in separate grooves —. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VI 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 NONE

**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 Positions**, 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 FIBRE

**Earthing Connections**, state what earthing connections are fitted and their respective sectional areas NONE

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 NONE

**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, are separate screens provided for the use of oil and electric side lights YES

are separate oil lanterns provided for the mast head lights and side lights 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 WELL GLASS

FITTINGS WITH STRONG METAL GUARD

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 —

**Searchlight Lamps**, No. of CABLE ONLY FITTED, whether fixed or portable —, are their fittings as per Rule —

**Are 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

are they protected from mechanical injury and damage from water, steam or oil YES, are their axis 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 — and —

if not of this type, state distance of the combustible material horizontally or vertically above the motors —

**Control Gear and Resistances**, are the generator field and motor speed regulators, starters and controllers constructed 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 —

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office —

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	2	135.	220	614	500	DIESEL ENGINE		
AUXILIARY	—							
EMERGENCY	—							
ROTARY TRANSFORMER	—							

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	1	.06	91	.093	614	24	PAPER	LC + ARM.
	FOOD RING MAIN.	4	.25	37	.093	1433	212	"	" " "
	AFT RING MAIN.	4	.15	37	.093	869	141	"	" " "
	EMERGENCY GENERATOR	—							
	ROTARY TRANSFORMER...	—	.075	19	.072				
	AUXILIARY SWITCHBOARDS	—							
	ENGINE ROOM	1	.007	7	.036	12.	10	V.I.R.	LC.
	BOILER ROOM NAVIGATION.	1	.01	7	.044	8	100	"	Arm.
	FORWARD	1	.0045	7	.029	6	10	"	Arm.
	FORWARD MAST HOUSE	1	.0045	7	.029	4	10	"	Arm.
	OFFICERS.	1	.007	7	.036	15	10	"	Arm.
	ENGINEERS.	1	.01	7	.044	15	10	"	Arm.
	AFT MAST HOUSE.	1	.0045	7	.029	4	10	"	Arm.
	AFT.	1	.0045	7	.029	6	10	"	Arm.
	FORWARD.	1	.01	7	.044	20	10	"	Arm.
	OFFICERS 2. 25X. 1/2".	1	.01	7	.044	50	10	"	Arm.
	ENGINEERS PORT	1	.0225	7	.064	12	10	"	Arm.
	" STAR.	1	.0225	7	.064	30	10	"	Arm.
	WIRELESS	1	.06	19	.064	40	30	VIR	LC.
	SEARCHLIGHT	1	.04	19	.052		10	"	Arm.
	MASTHEAD LIGHT 2 1/2"	1	.003	1	.064	1	120	"	Arm.
	SIDE LIGHTS 2 1/2"	1	.003	1	.064	1	35	"	LC.
	COMPASS LIGHTS 2 1/2"	1	.003	1	.064	5	10	"	LC.
	POOP LIGHTS	1	.003	1	.064	5	230	"	LC.
	CARGO LIGHTS 12 @ 100 WATT	1	.003	1	.064	1	110	"	Arm.
	ARC LAMPS 4 @ 500 WATT	1	.003	1	.064	2	10	"	Arm.
	HEATERS	—							

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.1	19	.053	113	86	V.I.R.	Lead Covered
	CARGO	1	.1	19	.053	113	40	"	" " "
	MAIN DECK FIRE PUMPS	1	.1	19	.053	113	86	"	" " "
	CYLINDER COOLING	2	.075	19	.072	172	86	"	" " "
	CONDENSER SERVICE PUMP	2	.04	19	.052	47	86	"	" " "
	PISTON COOLING	2	.04	19	.052	47	86	"	" " "
	EMERGENCY DRIVE PUMP	2	.04	19	.052	47	86	"	" " "
	SANITARY PUMP	1	.0145	7	.052	36	34	"	" " "
	CONDENSER SERVICE PUMPS	1	.087	7	.036	21	32	"	" " "
	BLOWER	2	.075	37	.064	935	40	Paper	" " "
	CONDENSER SERVICE PUMPS	2	.075	37	.064	935	40	Paper	" " "
	AIR COMPRESSOR	2	.2	37	.053	200	81	"	" " "
	REFRIG. PUMPS	1	.0225	7	.064	40	60	V.I.R.	" " "
	CONDENSER SERVICE PUMP	1	.003	1	.064	7	58	"	" " "
	REFRIG. PUMP	1	.003	1	.064	7	58	"	" " "
	CONDENSER SERVICE PUMP	1	.003	1	.064	7	58	"	" " "
	OIL PURIFIER	1	.003	1	.064	6	16	"	" " "
	CONDENSER SERVICE PUMP	1	.0145	7	.052	36	16	"	" " "
	OIL HEATER	1	.01	7	.044	21	84	"	" " "
	CONDENSER SERVICE PUMPS	1	.0145	7	.052	36	16	"	" " "
	OIL FUEL TRANSFER PUMP	1	.15	37	.072	248	12	Paper	LC + Arm.
	WINDLASS	1	.15	37	.072	248	12	Paper	LC + Arm.
	WINCHES, FORWARD 2 1/2"	14	.1	19	.083	106	10	V.I.R.	Arm.
	WINCHES, AFT 3 1/2"	3	.1	19	.083	122	10	"	Blk. Lube.
	STEERING GEAR	1	.075	19	.072	94	128	"	Lead Covered
	WORKSHOP MOTOR	1	.0045	7	.036	14	40	"	" " "
	VENTILATING FANS	—							
	WINCHES 3 1/2"	2	.12	37	.064	138	10	"	Steel Label
	GO GANION HEATER	1	.04	19	.052	54	25	"	Arm.
	15 " "	2	.007	7	.036	18	10	"	"
	5 " "	4	.0045	7	.029	11	10	"	"
	GRILL	1	.007	7	.036	18	20	"	"
	HOT PARTS	1	.007	7	.036	22	10	"	"

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.

TELFORD, GRANT & MACKAY, LTD,

Electrical Engineers.

Date 26/11/24

*[Handwritten Signature]*  
 Secretary

COMPASSES.

Distance between electric generators or motors and standard compass *Generator 39 yds. Wheel Motor 12 yds.*

Distance between electric generators or motors and steering compass *36 " " 9 "*

The nearest cables to the compasses are as follows:—

A cable carrying *8* Ampères *10* feet from standard compass *6* feet from steering compass.

A cable carrying *35* Ampères *1* feet from standard compass *1* 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 *Yes*.

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

LITHGOWS LIMITED

*[Handwritten Signature]*  
 Director & Secretary

Builder's Signature.

Date 25/11/24

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 installation has been*)

*fitted on board under special survey. Tested under full working conditions and found satisfactory in every way. The workmanship was found to be good and sound.*

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

*[Handwritten Signature]*  
 3/12/24

Total Capacity of Generators *406* Kilowatts

The amount of Fee ... £ *41.12.0* When applied for, *29.11.24*

Travelling Expenses (if any) £ : : *See debit book* When received, *See debit book*

*[Handwritten Signature]*  
 J. S. Rankin,  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Elec. Light.*

NOV. 16 DE 1924

Im. 22.—Transfer. (If the surveyors are requested not to write on or below the space for Committee's Minute.)

*A. L.*  
 1/12/24



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