

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

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

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

739. on the M. Y. ATAGO MARU Tons { Gross 7559 Net 4670
 ilt at PORT GLASGOW. By whom built MESSRS LITHGOW & CO Yard No. When built 1924

ners NIPPON YUSEN K. K. Port belonging to TOKIO.
 etric Light Installation fitted by MESSRS TALFORD GRIER & MCKAY Contract No. 462 When fitted 1924

tem of Distribution DIRECT CURRENT TWO WIRE SYSTEM.
 ssure of supply for Lighting 220 volts, Heating 220 volts, Power 220. volts.
 ect or Alternating Current, Lighting DIRECT Power DIRECT.

Alternating current system, state frequency of periods per second ✓
 the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off YES
 erators, do they comply with the requirements regarding overload YES, are they compound wound YES.
 they over compounded 5 per cent. YES, if not compound wound state distance between each generator —
 re more than one generator is fitted are they arranged to run in parallel YES, is an adjustable regulating resistance fitted in
 s with each shunt field YES

all terminals accessible and clearly marked YES, are they so spaced or shielded that they cannot be accidentally earthed,
 hort circuited YES Are the lubricating arrangements of the generators as per Rule YES.

ition of Generators ENGINE ROOM. MAIN PLATFORM PORT SIDE
 ie ventilation in way of the generators satisfactory YES, are they clear of all inflammable material YES.
 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.
 their axis of rotation fore and aft YES

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

in 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
 se on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard ✓.
 chboards, are they placed in accessible positions, free from inflammable gases and acid fumes YES.
 hey protected from mechanical injury and damage from water, steam or oil YES, if situated near unprotected
 lwork or other combustible material, state distance of same horizontally from or vertically above the switchboards ✓ and ✓.
 hey constructed wholly of durable, incombustible non-absorbent materials YES, is all insulation of high dielectric strength and of
 anently high insulation resistance YES, if semi-insulating material is used, are all conducting parts connected to one pole
 lated from the slab with mica or micanite and the slab similarly insulated from its framework YES, and is the
 e 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, individual fuses to voltmeter, pilot or earth lamp YES, connections of switches YES.

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

VERSE CURRENT CIRCUIT BREAKERS WITH TIME LAGS & EQUALISER SWITCHES.

OUTGOING CIRCUITS - D.P. CIRCUIT BREAKERS

uments on main switchboard 3 ammeters 3 voltmeters ✓ synchronising device for paralleling purposes.

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

EARTH LAMPS

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

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



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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 storeholds 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*

FITTING 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 *ONE 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 —, 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 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. Amperes.	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	"	" " "
	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. 12X.	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	.064	1		10	"	Arm.
	MASTHEAD LIGHT	1	.003	✓	1	.064	1		120	"	Arm.
	SIDE LIGHTS.	1	.003	✓	1	.064	1		35	"	LC.
	COMPASS LIGHTS	1	.003	✓	1	.064	5		10	"	LC.
	POOP LIGHTS	1	.003	✓	1	.064	5		230	"	LC.
	CARGO LIGHTS 12@ 100WATT	1	.003	✓	1	.064	1		110	"	Arm.
	ARC LAMPS 4@ 500W.	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. Amperes.	Approximate Length. (Lead and Return) Feet.	Insulated with	HOW PROTECTED.		
				No.	Diameter.						
	BALLAST PUMP	1	.1	✓	19	.083	113.		86	V.I.R.	Lead Covered
	MAIN DISCH. PUMPS	1	.1	✓	19	.083	113		40	"	" " "
	CYLINDER COOLING	2	.075	✓	19	.072	172.86		86	"	" " "
	PISTON COOLING	2	.04	✓	19	.052	47		86	"	" " "
	SANITARY PUMP	1	.0145	✓	7	.052	36		34	"	" " "
	CARGO COOLING PUMPS	1	.007	✓	7	.036	21		32	"	" " "
	BLOWER	2	.075	✓	37	.064	935		40	Paper	" " "
	AIR COMPRESSOR	2	.2	✓	37	.063	240		81	"	" " "
	REFRIG. PUMPS	1	.0225	✓	7	.064	40		60	V.I.R.	" " "
	REFRIG. PUMP	1	.003	✓	1	.064	7		58	"	" " "
	OIL PURIFIER	1	.003	✓	1	.064	6		16	"	" " "
	OIL HEATER	1	.0145	✓	7	.052	36		16	"	" " "
	OIL FUEL TRANSFER PUMP	1	.01	✓	7	.044	21		84	"	" " "
	WINDLASS	1	.15	✓	37	.072	248		12	Paper	LC + Arm.
	WINCHES, FORWARD 24HP.	14	.1	✓	19	.083	106		10	V.I.R.	Arm.
	WINCHES, AFT 30HP.	3	.1	✓	19	.083	122		10	"	Steel Lube.
	STEERING GEAR	1	.075	✓	19	.072	94		128	"	Lead Covered
	WORKSHOP MOTOR	1	.0045	✓	7	.029	14		40	"	" " "
	VENTILATING FANS	2	.12	✓	37	.064	138		10	"	Steel Lube.
	WINGHEAT 34HP	1	.04	✓	19	.052	54		28	"	Arm.
	GOGANLON HEATER	2	.007	✓	7	.036	18		10	"	"
	5 " "	4	.0045	✓	7	.029	11		10	"	"
	GRILL	1	.007	✓	7	.036	18		20	"	"
	HOT PLATE.	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

COMPASSES.

Distance between electric generators or motors and standard compass

Generator 39 yds. Which 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

G. J. Allan

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.

J. S. Rankin
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) £

When received,

Debit book.

Committee's Minute.

Assigned

Elec. Light.

YES. 16 DE 1924



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