

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

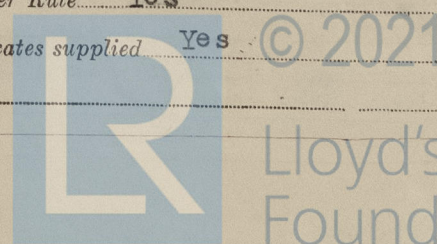
Received at London Office. 15 OCT 1957

Date of writing Report 31st Aug. 1957 When handed in at Local Office _____ 19 _____ Port of Nagasaki (Shimonoseki)
 No. in Survey held at Nagasaki, Japan Date, First Survey 25th May, 1957 Last Survey 25. July 57
 Reg. Book. _____ (No. of Visits _____)
 on the M.V. "KOSEI MARU" Tons Gross 9202
Nagasaki, Japan By whom built Mitsubishi Zosen K.K. Nagasaki Works Yard No. 1485 When built 1957-7
 Owners Daido Kaikan K.K. Port belonging to Kobe
 Installation fitted by Mitsubishi Zosen K.K., Nagasaki Works When fitted 1957-7
 Is vessel equipped for carrying Petroleum in bulk No Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. No Radar Yes

Plans, have they been submitted and approved Yes System of Distribution 3 Wire 3 phase Voltage of Lighting 110
 Heating 110 Power 440 D.C. or A.C. Lighting A.C. Power A.C. If A.C. state frequency 60 cycles
 Windlass D.C. 440V Mooring Winch D.C. 220V
 Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fitted
 with a trip switch - Generators, are they compound wound -, and level compounded under working conditions -
 Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole -
 Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines
 under 100 kw. been supplied and the results found as per Rule Yes Position of Generators Port Fwd., Port Aft
Inboard and Port Aft Outboard on platform level in machinery space.
 is the ventilation in way of generators satisfactory Yes are they clear of inflammable material and protected from mechanical injury and
 damage from water, steam and oil Yes Switchboards, where are main switchboards placed at centre of fwd. end
on platform level in machinery space.
 are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water,
 steam and oil Yes, what insulation is used for the panels phenolic resin bonded board & bar if of synthetic insulating
 material is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as
 per Rule - Is the construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear
 for each generator and arrangement of equaliser switches Triple sole linked air circuit breaker with instantaneous
overcurrent trip in each phase, overcurrent relay in each phase, performance overcurrent
relay for hold fan circuit, reverse power relay and triple pole linked isolating switch
fitted ventral insulated from earth
 and the switch and fuse gear (or circuit breakers) for each outgoing circuit Triple pole linked air circuit breaker
with an over current trip on each insulated pole. Breakers of De-ion type made by
Mitsubishi Electric Mfg. Co., Ltd., Tokyo.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 6
 ammeters 3 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reverse current
3 wattmetres 2 frequency metres, 1 watthour metre
 protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided 2 set for
 power and lighting circuits Preference Tripping, state if provided -, and tested -
 Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes
Fuji Electric Mfg. Co. Ltd. &
 make of fuses Utsunomiya Mfg. Co. are all fuses labelled Yes If circuit breakers are provided for the generators, at what
 overload do they operate 150% (480A.) 19 sec. and at what power do the reverse current protective-
 devices operate 25 KW. Cables, are they insulated and protected as per Rule Yes
 if otherwise than as per Rule are they of an Approved Type -, state maximum fall of pressure between bus bars and any point
 under maximum load 6.2 volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends Yes
 Are all the cable runs in accessible positions not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical
 damage Yes, are any cables laid under machines or floorplates Yes if so, are they adequately protected Yes State
 type of cables (if in conduit this should also be stated) in machinery spaces VLC, RHRC & RLC in conduit below RLC & RHRC
platform
 and laundries RLC & RHRC State how the cables are supported or protected Cables of metal braided recured
by metal clips on coated steel hanger or galvanized perforated steel plates. Cables in
cargo spaces protected by steel platings.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight
 bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes
 effectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule Yes
 Have refrigeration fan motors been constructed under survey Yes and test certificates supplied Yes
 Are the motors accessible for maintenance at all times Yes



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule **Yes** Emergency Supply, state position
 Boat deck star'd. side (Radio Room), 24v. battery units with automatic control switch for
 Lighting passage, machinery spaces and boat embarkation lights
 Navigation Lamps, are they separately wired **Yes** controlled by separate double pole switches and fuses **Yes** Are the switches and fuses in
 a position accessible only to the officers on watch **Yes** is an automatic indicator fitted **Yes** Is an alternative supply provided **Yes**
 Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule **Yes** state battery capacity in
 ampere hours **24v. 200A.H. & 24v. 80A.H.** Where required to do so does it comply with 1948 International Convention **Yes**
 Lighting, is fluorescent lighting fitted **Yes** If so, state nominal lamp voltage **A.C. 110V** and compartments where lamps are fitted.
Dining Saloon and Smoking Room

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof.

Searchlights, No. of **One**, whether fixed or portable **portable**, are they of the carbon arc or of the filament type **Filament type**

Heating and Cooking, is the general construction as per Rule **Yes** are the frames effectually earthed **Yes** are heaters in the
 accommodation of the convection type **Yes** Motors, are all motors constructed and installed as per Rule and placed in well-ventilated
 compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil **Yes**

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump
 compartment **Yes** Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing **Yes**

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule **Yes**

Lightning Conductors, where required are they fitted as per Rule **Yes**

Ships carrying on having a Flash Point of less than 100° F. Have all the special requirements of the Rules for such ships been complied
 with **Yes** are all fuses of an Approved Cartridge Type **Yes** make of fuse **Yes** Are the fittings for pump
 rooms, tween deck spaces, etc., in accordance with the special requirements for such ships **Yes** Are all cables lead covered as per Rule **Yes**

E.S.D., if fitted state maker **Tokyo Keiki Seisakujo** location of transmitter and receiver **E.S. Compartment of No. 3 Double Bottom Tank, Frame Nos. 119 to 120**

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations **Yes**

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory **Yes**

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	KVA	RATED AT	PRIME MOVER.
			KVA	Volts. Amps.	Rev. per Min. TYPE.
MAIN	3	Mitsubishi Electric Mfg. Co., Ltd.	250	450 321 450	1500 2500 Niigata Engineering Co Diesel Ltd.
EMERGENCY	-				
ROTARY TRANSFORMER	-				

GENERATOR CABLES.

DESCRIPTION.	No. of	CONDUCTORS		MAXIMUM CURRENT		APPROX.	INSULA.	PROTECTIVE COVERING.
		KVA.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands	In the Circuit.	LENGTH (lead plus return feet).	Material.	Lead
MAIN GENERATOR	3	250	2(30)	37/.083	321	400	No. 4	Varnished Conduc Alloy Sheathed and Steel Wire Braided Cable
"							No. 2	
EQUALISER							2x16	
							No. 3	
							2x17	
EMERGENCY GENERATOR								
ROTARY TRANSFORMER : MOTOR								
"								
"								
GENERATOR.								

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.		Power		CONDUCTORS		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).		INSULA.		PROTECTIVE COVERING.	
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands	Sq. ins.	sq. mm.	Rule.	Rule.						
Eng. Room Auxiliaries star'd.	(P-12)	1(30)	19/.064	71	91	21	V. Cambric	Lead Alloy, Steel	Wire Braided				
" " port aft	S-B (P-13)	1(30)	7/.064	36.5	51	26	"	"	"				
" 3rd dk. ports	S-B (P-14)	1(30)	19/.064	65	91	15	"	"	"				
" star'd. fore	S-B (P-15)	1(30)	7/.052	13	38	14	"	"	"				
Cargo Winch fwd.	S-B (P-16)	2(30)	37/.072	233	332	2x14	"	"	"				
Cargo Winch aft.	S-B (P-17)	2(30)	37/.072	203	332	2x54	"	"	"				
Hold Fan	S-B (P-18)	1(30)	19/.064	76	91	18.5	"	"	"				
Refrigerating Plant	S-B (P-19)	1(30)	37/.083	155	200	16	"	"	"				
Thermotank Fan	S-B (P-20)	1(30)	7/.052	16	38	38	"	"	"				

DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.		CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm.	In the Circuit.	Rule.			
A.C. 440 Volt								
Radio	(P-21)	1(30)	7/.036	10	✓ 19	37 (M)	V. Cambric	Lead Alloy, Steel Wire Braided
Gyro Compass	(P-22)	1(30)	7/.029	6	✓ 14	28.5	"	" "
Transformer 20 KVA x 3	(P-25)	1(30)	19/.064	77	✓ 91	9	"	" "
Shore Power connection box	(P-26)	1(30)	37/.083	160	✓ 200	40	"	" "
A.C. 110 Volt								
Transformer 20 KVA x 3	(P-25A)	2(30)	37/.072	308	✓ 332	7	V. Cambric	Lead Alloy, Steel Wire Braided
Navigation light & Nav. bridge light	(L-1)	1(30)	7/.064	30	✓ 51	31	"	" "
Living quarter light	(L-2)	1(30)	19/.083	106	✓ 128	27	"	" "
Cargo light	(L-3)	1(30)	19/.064	70	✓ 91	70	"	" "
Engine Room light	(L-4)	1(30)	19/.064	73	✓ 91	13	"	" "
Cooking apparatus	(L-6)	1(30)	37/.072	104	✓ 166	23	"	" "
Radio	(L-7)	1(30)	7/.052	27	✓ 37	38	"	" "
				</				

ALL IMPORTANT MOTORS TO BE ENUMERATED.

ALL IMPORTANT MOTORS TO BE ENUMERATED.			No.	B.H.P.	MOTOR CABLES.				
Jacket Piston Cooling Pump	2	42	1(30)	19/.044	50	58	9.2	V. Cambric Lead Alloy, Steel	
Sea Water Cooling Pump	2	55	1(30)	19/.052	66	70	7.5	Wire Braided	
Lub. Oil Pump	2	15	1(30)	7/.044	21	29	24	"	"
Fire & G.S. Pump	1	50	1(30)	19/.052	59	70	32	"	"
Steering Gear	2	20	1(30)	7/.044	28.5	29	28	"	"
Aux. Blower	1	30	1(30)	7/.052	35	38	30	"	"
Bilge & Ballast Pump	1	45/51	2(30)	19/.064	91	91	33	"	"
O.F. Transfer Pump	1	15	1(30)	7/.044	20.4	29	13	"	"
O.F. Service Pump	1	4	1(30)	1/.064	5.4	7	17	Rubber Insulated P.C.P.	
L.O. Shifting Pump	1	4	1(30)	1/.064	5.4	7	15	Sheathed, Steel Wire Braided	
L.O. Purifire	1	2	1(30)	1/.064	2.7	7	11.5	"	"
O.F. Purifire	3	2	1(30)	1/.064	2.8	7	18.75	"	"
O.F. Clarifire	2	2	1(30)	1/.064	2.8	7	12.13	"	"
Purifire Pump	2	3	1(30)	1/.064	3.8	7	12.11	"	"
"	1	1.5	1(30)	1/.064	2.1	7	13	"	"
Boiler Water Forced Circulation Pump	2	5	1(30)	1/.064	6	7	29.32	"	"
Bilge Pump	1	5.5	1(30)	7/.036	8.1	12	9	"	"
Turning Gear	1	10/5	2(30)	7/.036	12	19	12V. Cambric	Lead Alloy, Steel Wire	
Turbo Charger L.O. Pump	2	2	1(30)	1/.064	2.9	7	16.44	Rubber Insulated, P.C.P. Sheathed, Steel Wire Braided	
Work Shop Machine	1	3	1(30)	1/.064	4.1	7	22	"	"
Eng. Room Vent. Fan	2	5	1(30)	1/.064	6.6	7	51.55	"	"
Windlass	1	80	3(10)	19/.064	158	273	16	V. Cambric Lead Alloy, Steel Wire	
Mooring Winch	1	53	4(10)	19/.083	208	238	140	"	Braided
5 Ton Cargo Winch	4	53	3(10)	19/.083	208	238	15 average	"	"
3 Ton Cargo Winch	14	30	3(10)	19/.064	120	160	15	"	"
M-G for 5 Ton Cargo Winch	2	M 85 HP 1 (30)	19/.083	133	133	15	"	"	"
M-G for 3 Ton Cargo Winch	2	M 45 HP 1 (30)	19/.083	133	133	15	"	"	"
M-G for 3 Ton Cargo Winch	2	M 264 HP 2 (10)	19/.083	133	133	15	"	"	"
M-G for 5 Ton Cargo Winch	2	M 30 HP 1 (30)	7/.044	24.5	29	15	"	"	"
Motor Exciter	2	M 12 HP 2 (10)	7/.064	36.5	51	16.15	"	"	"
Ref. Compressor (Cargo)	3	30/15	2(30)	7/.044	26	29	17	"	"
Ref. Cooling Water Pump	2	5	1(30)	1/.064	6.2	7	21.2	Rubber Insulated, P.C.P. Sheathed, Steel Wire Braided	
Cold Air Circulating Fan	4	4/2	1(30)	1/.064	2.8	7	21.21	"	"
Prov. Ref. Compressor	1	7.5	1(30)	7/.036	9.4	12	11	"	"
Prov. Ref. Colling Water Pump	1	1.5	1(30)	1/.064	1.95	7	24	"	"
Dry Air Fan	1	5	1(30)	1/.064	6.2	7	5	"	"
Hold Supply Fan	2	4.5	1(30)	1/.064	5.4	7	212/12	"	"
Hold Exhaust Fan	2	4.5	1(30)	1/.064	5.4	7	"	"	"
Thermotank Fan	2	4.5	1(30)	7/.036	8	12	"	"	"

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.

All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.

The foregoing is a correct description.

S. Koga

Electrical Contractors.

Date

NAGASAKI WORKS

MITSUBISHI SHIPBUILDING & ENGINEERING CO., LTD.

COMPASSES.

Have the compasses been adjusted under working conditions

Yes

S. Koga

Builder's Signature.

Date

NAGASAKI WORKS

MITSUBISHI SHIPBUILDING & ENGINEERING CO., LTD.

Have the foregoing descriptions and schedules been verified and found correct

Yes

Is this installation a duplicate of a previous case

Yes

If so, state name of vessel

M.V. "KOSOH MARU"

Plans. Are approved plans forwarded herewith

No

If not, state date of approval

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)

The Electrical Equipment and Installation of this ship have been made under special survey in accordance with the requirements of the Rules, the approved plans and the Secretary's letters.

The materials and workmanship are sound and good.

All tests and trials as required by the Rules have been completed with satisfactory results.

Total Capacity of Generators 750

K.V.A.

Kilowatts.

The amount of Fee ... £237,150

Total 750KVA Generators(3)

Construction Fee £41,850

Deducted. M3143(A/c 25/1/57)

Travelling Expenses (if any) £

When applied for,

SEP. 30. 1957

LOCALLY

When received,

19

Surveyor to Lloyd's Register of Shipping.

TUESDAY - 5 NOV 1957

Committee's Minute

Assigned

Su Rpt. 1



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Lloyd's Register
Foundation