

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) 9202

on the M.V. "KOSEI MARU" Tons Gross 9202 Net 5353

Built at Nagasaki, Japan By whom built Mitsubishi Zosen K.K. Yard No. 1485 When built 1957-7

Owners Daido Kaiun K.K. Port belonging to Kobe

Installation fitted by Mitsubihsi 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

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 Fw'd., 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 fw'd. 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. & 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 cables 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 in conduit below RLC & RHRC galleys RLC & RHRC

and laundries RLC & RHRC platform 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.

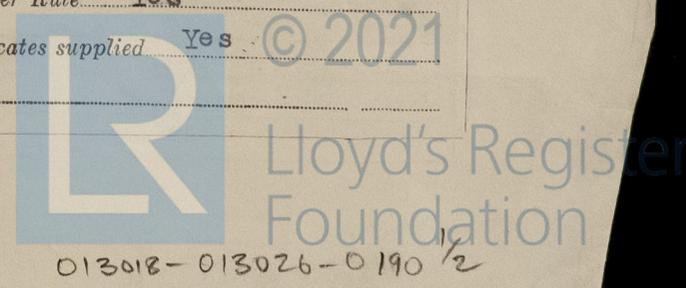
Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight

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

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

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 Seisakuho** 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				TYPE.	PRIME MOVER.
			Volts.	Amps.	Revs. per Min.	MAKER.		
MAIN	3	Mitsubishi Electric Mfg. Co., Ltd.	250	450	321	450	15725B Diesel	Niigata Engineering Co Ltd.
EMERGENCY ROTARY TRANSFORMER	-	-	-	-	-	-	-	-

GENERATOR CABLES.

DESCRIPTION.	No. of	CONDUCTORS		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet)	INSULA.	PROTECTIVE COVERING.
		KVA.	Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm.				
MAIN GENERATOR	3	250	2(30) 37/.083	321	400	2x10	Alloy Sheathed and Steel Wire Braided Cable
EQUALISER	-	-	-	-	-	No. 2 2x16 No. 3 2x17	-
EMERGENCY GENERATOR	-	-	-	-	-	-	-
ROTARY TRANSFORMER: MOTOR	-	-	-	-	-	-	-
GENERATOR	-	-	-	-	-	-	-

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

DESCRIPTION.	No. of	KVA.	Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet)	INSULA.	PROTECTIVE COVERING.
Power	-	-	-	-	-	-	-
Eng. Room Auxiliaries star'd.	(P-12)	1(30)	19/.064	71	21	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	" " "

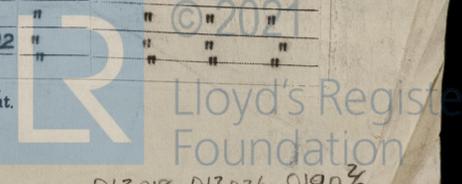
DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet)	INSULA.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
A.C. 440 Volt	-	-	-	-	-	-	-
Radio	(P-21)	1(30)	7/.036	10	19	37	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.

DESCRIPTION.	No.	D.H.P.	CONDUCTORS		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet)	INSULA.	PROTECTIVE COVERING.
			KVA.	Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm.				
Jacket Piston Cooling Pump	2	42	1(30)	19/.044	50	58	9.2	V. Cambric Lead Alloy, Steel Wire Braided
Sea Water Cooling Pump	2	55	1(30)	19/.052	66	70	7.5	" " "
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	" " "
Blge & Ballast Pump	1	45/51	2(30)	19/.064	91	91	33	" " "
O.P. Transfer Pump	1	15	1(30)	7/.044	20.4	29	13	" " "
O.P. Service Pump	1	4	1(30)	1/.064	5.4	7	17	" " "
L.O. Shifting Pump	1	4	1(30)	1/.064	5.4	7	15	Rubber Insulated P.C.P. Sheathed, Steel Wire Braided
L.O. Purifire	1	2	1(30)	1/.064	2.7	7	11.5	" " "
O.P. Purifire	3	2	1(30)	1/.064	2.8	7	15.76	" " "
O.P. 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	" " "
Blge 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 Braided
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 Braided
Mooring Winch	1	53	4(10)	19/.083	208	238	140	" " "
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 kW 1 (30)	19/.083	133	153	15	" " "	
M-G for 3 Ton Cargo Winch	2	M 45 kW 1 (30)	19/.083	73	238	15	" " "	
M-G for 5 T. Cargo Winch	4	M 264 kW 2 (10)	19/.083	133	160	15	" " "	
Ref. Compressor (Cargo)	3	M 30 HP 1 (30)	7/.044	24.5	29	15	" " "	
Ref. Cooling Water Pump	2	M 26 kW 2 (10)	7/.044	36.5	51	16.18	" " "	
Cold Air Circulating Fan	4	4/2	1(30)	1/.064	6.2	7	21.2	Rubber Insulated, P.C.P. Sheathed, Steel Wire Braided
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 Fees ... £237,150 :
Total 750KVA Generators(3)
Construction Fee £41,850
Deducted. M3143(A/c 25/1/57)
Travelling Expenses (if any) £ : : 19.

When applied for,
SEP. 30. 1957
LOCALLY
When received,

S. Matsumura
Surveyor to Lloyd's Register of Shipping.

TUESDAY - 5 NOV 1957

Committee's Minute

Assigned *Su Rpt. 1*

5m.656 - Transfer. (MADE AND PRINTED IN ENGLAND)
(The Surveyors are requested not to write on or below the space for Committee Minutes.)

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18.10.57



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