

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 16 JAN 1959

Date of writing Report 15th Nov. 19 58 When handed in at Local Office 19 Port of YOKOHAMA

No. in Survey held at YOKOHAMA Date, First Survey 17th June 1958 Last Survey 20th Oct. 1958

Reg. Book. (No. of Visits 12)

on the "ALTHEA" Tons { Gross 24256.99 Net 15243.96

Built at Yokohama, Japan By whom built Yokohama Shipyard & Engine Works, Mitsubishi Nippon Heavy Ind. Ltd. Yard No. S-823 When built 10-1958

Owners Vega Steam Ship Co., S.A. Port belonging to Monrovia

Installation fitted by Yokohama Shipyard & Engine Works, Mitsubishi Nippon Heavy Ind. Ltd. When fitted 10 - 1958

Is vessel equipped for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. - Radar Yes

Plans, have they been submitted and approved Yes System of Distribution A.C. 3 Phase-3 Wire Voltage of Lighting 110 V.

Heating Small 110V Power 440 V. D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60 c/s

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 No 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 No

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 Inboard-(No.1) Generator Port Outboard-(No.2) Generator or Boiler Flat

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 Forward on Boiler Flat

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 Synthetic Resin 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.

All main switchgear for the generator have a 3-poles air circuit-breaker and disconnected switch

and the switch and fuse gear (or circuit breakers) for each outgoing circuit 3-poles moulded case thermal magnetic type circuit breaker

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 13

ammeters 6 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided

Three (3) - Lamp System Preference Tripping, state if provided No and tested -

Switches, Circuit Breakers and Fuses, are they as per Rule Yes are the fuses an Approved Type Yes

make of fuses Utsunomiya "Cello-Lite" are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate Timer - 150% (20 Sec) Instant-400% of the rated current and at what current do the reverse current protective devices operate at 5% of the rated current Cables, are they insulated and protected as per Rule Yes

if otherwise than as per Rule are they of an Approved Type Yes state maximum fall of pressure between bus bars and any point under maximum load 6V (1.3%) 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 Varnished-Cambric-insulated Lead-Alloy-Sheathed and galleys - do - Steel-Wire-Braided and laundries - do - State how the cables are supported or protected

where exposed to risk of mechanical damage are protected in accordance with the requirement of M.914.

Cables entering cold storage chambers are laid in accordance with requirement of M.916

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
Radio Office. Main Gauge Board. Main Sw. Board. Aux. Sw. Board. Boiler-Gauge Board. F.48 Piller

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
200AH-2 Sets for Emergency-Light
ampere hours 200AH-3 Sets for Wireless-Tel. here required to do so does it comply with 1948 International Convention Yes

Lighting, is fluorescent lighting fitted No If so, state nominal lamp voltage - and compartments where lamps are fitted -

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

Searchlights, No. of One-Set, whether fixed or portable Fixed Type, 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 Oil having a Flash Point of less than 150° 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 Utsunomiya "Cello-Lite" 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 Nippon Electric Co. location of transmitter and receiver Double Bottom of the Engine Room
between Fram No. 53-54 (Port)

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.	RATED AT				PRIME MOVER.	
			Kw. per Generator.	Volts.	Amps.	Revs. per Min.	TYPE.	MAKER.
MAIN Gen.	2	Fuji Denki Sei zo, Kawasaki Co.	600	450	962	1800	Turbine	Kobe Shipyard & Engine Works Mitsubishi Heavy-Industries Reorganized Ltd.
EMERGENCY ROTARY TRANSFORMER	1	- do -	100	450	160	720	Diesel	Suction Gas Engine Mfg. Co.

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	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.				
MAIN GENERATOR	2	600	4	0.3	962	260 x 4	33	Varnished Cambric Lead-Alloy-Sheathed & Steel-Wire-Braided
EQUALISER								
EMERGENCY GENERATOR	1	100	1	0.15	160	166	82	- do - - do -
ROTARY TRANSFORMER: MOTOR								
GENERATOR								

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

DESCRIPTION.								
From Main Switch Board								
P-1 Power Section Board	1	0.15	157	166	180	Varnished Cambric	Lead-Alloy-Sheathed & Steel-Wire-Braided	
P-2 " "	1	0.06	78	91	115	"	"	
P-3 " "	1	0.007	16.4	19	192	"	"	
P-B Power Dist. Fuse Board	1	0.0145	30	38	148	"	"	
P-C " "	1	0.0145	30	38	130	"	"	
P-D " "	1	0.0145	30	38	164	"	"	
P-E " "	1	0.0145	30	38	16	"	"	
P-F " "	1	0.0225	42	51	125	"	"	
L-1 Lighting Section Board	1	0.0225	33	51	66	"	"	
L-2 " "	1	0.0225	33	51	39	"	"	
L-D " Dist. Fuse Board	1	0.0145	30	38	39	"	"	
L-E " "	1	0.0145	28	38	39	"	"	
L-F " "	1	0.0145	23	38	82	"	"	
Aux. Switch Board	1	0.15	160	166	31	"	"	
Sub. " "	1	0.1	58	128	425	"	"	

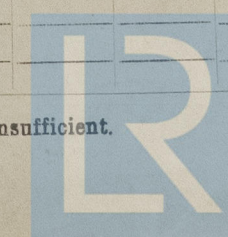
DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

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.			
From Aux. Switch Board							
C.O.S. for Steering Gear Motor	1	0.06	70	91	230	Varnished Cambric	Lead-Alloy-Sheathed & Steel-Wire-Braided
Sub. Switch Board	1	0.1	33	128	460	"	"
EL-C Lighting Dist. Fuse-Board	1	0.007	15	19	125	"	"
EL-D " "	1	0.0145	23	38	75	"	"
EL-E " "	1	0.0225	28	51	39	"	"
C-C Comm. "	1	0.0045	3	11	39	Rubber	"
From Sub. Switch Board							
P-A Power Dist. Fuse-Board	1	0.0145	30	38	16	Varnished Cambric	"
L-A Lighting "	1	0.007	16	19	16	"	"
L-B " "	1	0.007	19	19	13	"	"
L-C " "	1	0.0145	35	38	33	"	"
L-N " "	1	0.0145	19	38	43	"	"
EL-A " "	1	0.0045	7	11	16	Rubber	"
EL-B " "	1	0.0045	5	11	13	"	"
C-A Comm. "	1	0.007	5	19	43	Varnished Cambric	"
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MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.	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.	In the Circuit.	Rule.			
Main Circulating P.M.		1	160/70	1	0.25	200/105	231	102	Varnished Cambric	Lead-Alloy-Sheathed & Steel-Wire-Braided
Aux. " "		1	60/30	1	0.06	76/44	91	92	"	"
Forced Draft Fan M.		2	110/33	1	0.15	135/50	166	200	"	"
Main Condensate P.M.		2	40	1	0.0225	48	51	115	"	"
Aux. " "		2	25	1	0.0145	29.5	38	92	"	"
F.O. Service P.M.		2	15/7.5	1	0.007	18.5/14.5	19	150	"	"
Control Air Comp M.		2	7.5	1	0.0045	12	14	82	"	"
Ship Service Air Comp. M.		1	25	1	0.0145	33.5	38	67	"	"
General Service & Fire P.M.		1	50	1	0.04	60	70	158	"	"
Bilge & Ballast P.M.		1	20	1	0.0145	24	38	180	"	"
F.O. Transfer P.M.		1	15	1	0.0145	21	38	198	"	"
Water Service P.M.		1	15	1	0.007	17.9	19	180	"	"
Turning Gear M.		1	10/5	1	0.0045	13.2/7.8	14	148	"	"
F.W. Drain Transfer P.M.		1	10	1	0.0045	12.5	14	89	"	"
Engine Rm. Vent Fan M.		2	7.5	1	0.0045	9.5	11	164	Rubber	"
Boiler Rm. " "		2	7.5	1	0.0045	9.5	14	200	Varnished Cambric	"
Bilge Pump M.		1	6	1	0.0045	8.7	14	131	"	"
L.O. Purifier M.		2	3	1	0.0045	3.9	11	130	Rubber	"
Steering Gear M.		2	50	1	0.04	70	70	49	Varnished Cambric	"
Ref. Machine Comp. M.		2	7.5	1	0.0045	9.7	14	160	"	"
Lub. Oil Pump M.		2	35	1	0.0225	43	51	140	"	"
Cold Start F.W. P.M.		1	7.5	1	0.0045	10.5	14	164	"	"
" " Forced Draft Fan M.		1	1.5	1	0.0045	2.1	11	164	Rubber	"
" " F.O. P.M.		1	1	1	0.0045	1.6	14	115	Varnished Cambric	"
Starting Air Comp. M.		1	3	1	0.0045	3.65	7	82	Rubber	"

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



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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.

M. Inagaki Electrical Contractors. Date _____
Vice General Manager
YOKOHAMA SHIPYARD & ENGINE WORKS,
MITSUBISHI NIPPON HEAVY-INDUSTRIES, LTD.

COMPASSES.

Have the compasses been adjusted under working conditions. Yes 18th Oct. 1958

M. Inagaki Builder's Signature. Date _____
Vice General Manager
YOKOHAMA SHIPYARD & ENGINE WORKS,
MITSUBISHI NIPPON HEAVY-INDUSTRIES, LTD.

Have the foregoing descriptions and schedules been verified and found correct.

Is this installation a duplicate of a previous case. Yes If so, state name of vessel "KYMO"
Plans. Are approved plans forwarded herewith. No If not, state date of approval July 24, 1956

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

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

The Electrical Equipment of this vessel has been constructed and installed under the supervision of the Society's Surveyors in accordance with the Rules, approved plans and Secretary's letters.

The Quality of workmanship and materials have been found satisfactory.

The Electric Equipment has been examined under working condition and installation tested according to the Rules.

It is submitted that the Electric Equipment of this vessel is eligible to be classed with this Society and to have notation of + LMC 10,58.

Total Capacity of Generators 1300 Kilowatts
¥ 83,700- CHARGED 16TH APRIL 1958 FUSI DENKI SEIZO K.K.
CONSTRUCTION ¥ 18,300- CHARGED 18TH MARCH 1958 FUSI DENKI SEIZO K.K.
The amount of Fee ... £ : : When applied for 3
INSTALLATION ¥ 232,000- 19

Travelling Expenses (if any) £ : : 19

W. Armstrong & Dupuis
Surveyor to Lloyd's Register of Shipping

FRIDAY 27 FEB 1959

Committee's Minute

Assigned See Rpt. 1