

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

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Date of writing Report 3rd June, 1949 When handed in at Local Office 3rd June, 1949 Port of Baltimore, Maryland.

No. in Survey held at Baltimore, Maryland. Date, First Survey 1st April, Last Survey 2nd June, 1949  
Reg. Book. (No. of Visits 14)

on the S.S. "JAHRA"  
Bethlehem Sparrows Point  
Built at Sparrows Point, Md. By whom built Shipyard, Inc. Yard No. 4467 When built 1948-1949.  
Owners Kupan Transport Co., Port belonging to Monrovia  
Installation fitted by Bethlehem Sparrows Point Shipyards, Inc. When fitted 1949.  
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. No Radar Yes

Plans, have they been submitted and approved Yes System of Distribution A.C. Voltage of Lighting 117  
Heating - Power 450 D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60  
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 Yes Generators, are they compound wound A.C., and level compounded under working conditions -  
if not compound wound state distance between generators A.C. and from switchboard - Are the generators arranged to run in parallel Yes, are ~~XXXX~~ field regulators provided Yes Is the compound winding connected to the negative or positive pole -  
Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines under 100 kw. been supplied A.I.E.E. and the results found as per Rule A.I.E.E.

Position of Generators One forward of other in After 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 Starboard and adjacent to Generators.

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 Dead Front Metal Faced, 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~~ Dead Front, Three Pole, Air Circuit Breakers with Disconnect Links.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit All circuits protected by Dead Front Air Circuit Breakers, Thermal Overload and Magnetic Short Circuit Protection.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule - Instruments on main switchboard Two ammeters Three voltmeters Three synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided Ground Detection Lamps and Push Button

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes  
make of fuses Std. N.E.C., are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 825 Amps., and at what ~~current~~ value do the reversed ~~current~~ power protective devices operate 2 seconds of Reverse Power

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule Yes  
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 A.C., are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets No. Pressure Type 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 No, if so, are they adequately protected - Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit No or of the "HR" type - State how the cables are supported or protected In Brass Pipe on gangways, otherwise exposed in Flat Bar Hangers.

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 - Refrigerated chambers, are the cables and fittings as per Rule -



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. Yes Emergency Supply, state position Upper Engine Room - 75 K.W. Diesel.

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 and fitted as per Rule. None, are they adequately ventilated. - state battery capacity in ampere hours. -

Fittings, are all fittings on weather decks, ~~weatherproof~~ and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. Yes Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. No if so, how are they protected. -

and where are the controlling switches fitted. Min. 10 feet clear of all Gas Openings Are all fittings suitably ventilated. Yes

Searchlight Lamps, No. of Two, whether fixed or portable. One each, are they of the carbon arc or of the filament type. Filament

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. None 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. Attached Certificate

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule. A.I.E.E.

Control Gear and Resistances, are they constructed and fitted as per Rule. Yes Lightning Conductors, where required are they fitted as per Rule. Yes Ships carrying Oil having a Flash Point 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. Std. N.E.C. Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships. Yes Are the cables lead covered as per Rule. Yes

E.S.D., if fitted state maker. Bludworth Location of transmitter. Port & Std. of centerline Bot. Frs. 49-50 Eng. and receiver. Same as Transmitter Rm.

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.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	Two	Westinghouse	400	450 A.C.	641	1200	Turbine	Westinghouse
Auxiliary	One	Westinghouse	75	450 A.C.	120	1200	Diesel	Cummins
ROTARY TRANSFORMER	Two	Westinghouse	5	120 D.C.	41.6	1800	Motor	Westinghouse

#### GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH IN FEET.	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area of Conductor in Sq. ins.				
MAIN GENERATOR ...	400	3	.7068	803	837	28	V.C. Armoured Basket Weave
" " EQUALISER ...							
Auxiliary	75	1	.1045	150	158	25	" " " "
ROTARY TRANSFORMER: MOTOR	7.5 HP	1	.0051	10.5	22	35	" " " "
" " GENERATOR...	5	1	.0206	41.6	55.5	34	" " " "

#### MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.							Lead & Bronze Armoured Basket Weave.
Main Switchboard to Forward Switchboard	1	.1045	57.6	158	425	V.C.	" " " "
Main Switchboard to Emergency Switchboard	1	.1045	31.6	158	20	"	" " " "
Emergency Switchboard to Foreward Switch'd	1	.0206	12.9	55.5	410	"	" " " "
Machine Shop Panel	1	.0130	23.4	41	20	"	" " " "
Boiler Room Panel	1	.0051	1.72	22	75	"	" " " "
Machinery Space Vent Panel	1	.0521	59.0	99	120	"	" " " "
After Quarters Vent Panel	1	.0130	16.9	41	45	"	" " " "
Galley Power Panel	1	.0521	73.3	99	105	"	" " " "

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Port of Baltimore, Maryland.

Continuation of Report No. 8911

dated 3rd June, 1949.

on the

S.S. "JAIRA"

All Important Motors to be Enumerated.	No.	B.H.P.	Conductors.		Circuit	Rule	One way Leth.	Insul- ation.	Protective Covering.
			No. in Parallel	Sec. Area in sq. ins.					
Lube Oil Purifier - Aft.	1	1½	1	.0051	2.3	22	60	V.C.	Lead & Bronze Armoured Basket Weave
Priming Pump - Inbd.	1	1½	1	.0051	2.2	22	150	"	" " " "
" " Outbd.	1	1½	1	.0051	1.0	22	80	"	" " " "
Steering Gear Motor - Port	1	50	1	.0521	58.1	99	135	"	" " " "
" " " Std.	1	50	1	.0521	58.1	99	95	"	" " " "
Shaper	1	7½	1	.0051	10.0	22	35	"	" " " "
Lathe	1	5	1	.0051	7.5	22	30	"	" " " "
Grinder	1	3	1	.0051	4.5	22	35	"	" " " "
Drill Press	1	1	1	.0051	1.4	22	35	"	" " " "



LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES

[illegible]

## MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	MOTOR CABLES.								
ain Cond. Circulating Pump	1	125	1	.1659	155✓	217	155	"	"	"	"
orced Draft Blower - Port	1	83	1	.1659	100✓	217	120	"	"	"	"
" " " Std.	1	83	1	.1659	100✓	217	100	"	"	"	"
ire & General Service Pump	1	50	1	.0521	59.5✓	99	75	"	"	"	"
uel Oil Transfer Pump	1	30	1	.0521	40.4✓	99	165	"	"	"	"
ube Oil Service Pump - Fwd.	1	25	1	.0206	32.2✓	55.5	45	"	"	"	"
" " " " Aft.	1	25	1	.0206	32.2✓	55.5	40	"	"	"	"
hip Service Air Compressor	1	25	1	.0206	31.3✓	55.5	130	"	"	"	"
ain Condenser Cond. Pump, Inbd.	1	20	1	.0130	25.1✓	41	140	"	"	"	"
" " " " Outbd.	1	20	1	.0130	25.1✓	41	145	"	"	"	"
atmos. Exh. Cond. Circulating Pump	1	20	1	.0130	25.1✓	41	135	"	"	"	"
ater Service Pump - Fwd.	1	15	1	.0130	19.2✓	41	120	"	"	"	"
" " " " Aft.	1	15	1	.0130	19.2✓	41	125	"	"	"	"
uel Oil Service Pump - Inbd.	1	15	1	.0130	19.3✓	41	175	"	"	"	"
" " " " Outbd.	1	15	1	.0130	19.3✓	41	170	"	"	"	"
ilge & Ballast Pump	1	15	1	.0130	19.2✓	41	155	"	"	"	"
ux. Cond. Circulating Pump - Fwd.	1	10	1	.0051	12.5✓	22	60	"	"	"	"
" " " " Aft.	1	10	1	.0051	12.5✓	22	55	"	"	"	"
ux. Cond. Condensate Pump, Fwd.	1	10	1	.0051	13.0✓	22	55	"	"	"	"
" " " " Aft.	1	10	1	.0051	13.0✓	22	60	"	"	"	"
ond. & Drain Transfer Pump, Inbd.	1	7½	1	.0051	10.5✓	22	130	"	"	"	"
" " " " Outbd.	1	7½	1	.0051	10.5✓	22	130	"	"	"	"
anitary Pump	1	7½	1	.0051	10.5✓	22	120	"	"	"	"
hip Ser. Refriger. Compr. Inbd.	1	7½	1	.0051	10.0✓	22	45	"	"	"	"
" " " " Outbd.	1	7½	1	.0051	10.0✓	22	50	"	"	"	"
urning Gear	1	7½	1	.0051	10.0✓	22	70	"	"	"	"
ombustion Control Air Comp.	1	5	1	.0051	6.9✓	22	135	"	"	"	"
stilled Cond. Pump, Fwd.	1	3	1	.0051	4.0✓	22	75	"	"	"	"
" " " " Aft.	1	3	1	.0051	4.0✓	22	65	"	"	"	"
ine Ovbd. Disch. Pump, Fwd.	1	3	1	.0051	4.0✓	22	70	"	"	"	"
" " " " Aft.	1	3	1	.0051	4.1✓	22	70	"	"	"	"
ash Water Pump, Fwd.	1	3	1	.0051	4.1✓	22	60	"	"	"	"
" " " " Aft.	1	3	1	.0051	3.0✓	22	50	"	"	"	"
ortable Water - Pump	1	2	1	.0051	2.3✓	22	50	"	"	"	"
be Oil Purifier, Fwd.	1	1½	1	.0051	2.3✓	22	55	"	"	"	"



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.

Electrical Contractors.

Date

#### COMPASSES.

Have the compasses been adjusted under working conditions.

Builder's Signature.

Date

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

Is this installation a duplicate of a previous case. No If so, state name of vessel. -

Plans. Are approved plans forwarded herewith. Yes 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, whether insulation tests, etc., have been made, opinions as to class, etc.)

The Electrical Equipment of this vessel has been built under Special Survey in accordance with the requirements of this Society. The electrical units with all fittings, appliances, cables and fastenings have been installed on board the vessel in compliance with the Rules.

The material and workmanship throughout are good. Upon completion the entire electrical system was examined under full load working conditions, with satisfactory results.

The engine speed governors, over speed, reverse current, and overcurrent trips were satisfactorily tested and when generators were paralleled the load sharing was found satisfactory and in accordance with Section 21, of the Rules for Electrical Equipment. All circuits were satisfactorily Megger tested.

The spare gear conforms to the requirements of Section 22.

In my opinion the Electrical Equipment is eligible to be classed and recorded.

Copies of generator and motor test certificates attached hereto.

Noted *5/10/49*

Total Capacity of Generators. 875 Kilowatts.

#### Arranged Fee

The amount of Fee ... \$ 230.00 : When applied for, July 26, 19 49

Travelling Expenses (if any) £ 52.00 : When received, - 19

*C. H. Hamman*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

NEW YORK JUL 27 1949

Assigned *elec light*