

REPORT ON ELECTRICAL EQUIPMENT.

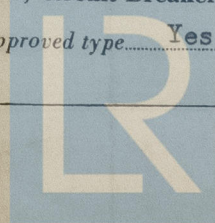
(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

5 JUN 1950

Received at London Office

Date of writing Report March 30th. 1950 When handed in at Local Office 19 Port of Jacksonville, Fla.
No. in Survey held at Jacksonville, Fla. Date, First Survey Sept. 29th. 1949 Last Survey March 13th. 1950
Reg. Book. (Number of Visits 105)
- on the Steel S.S. "ATHELING" ex H.M.S. "ATHELING" Tons { Gross 8089
Net 4529
Built at Tacoma, Washington. By whom built Seattle Tacoma S.B.Co. Yard No. - When built 1943
Owners Achille Lauro Co, Port belonging to Genoa
Electric Light Installation fitted by Gibbs Corporation, Jacksonville, Fla. Contract No. - When fitted 1950
Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Two Wire D.C.
Pressure of supply for Lighting 120 volts, Heating None volts, Power 230 volts,
Direct or Alternating Current, Lighting Direct Power Direct
If alternating current system, state frequency of periods per second -
Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes
Generators, do they comply with the requirements regarding temperature rise Yes, A.I.E.E. Std. are they compound wound Yes
are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator -
Where more than one generator is fitted are they arranged to run in parallel Yes, is an adjustable regulating resistance fitted in series with each shunt field Yes Have certificates of test results for machines under 100 kw. been submitted and approved Yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing A.B.S.
Are all terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes
Position of Generators Engine Room, Starbd. 1st. Platform., is the ventilation in way of the generators satisfactory Yes are they clear of all inflammable material Yes if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators None and -, are the generators protected from mechanical injury and damage from water, steam or oil Yes, are their axes of rotation fore and aft Yes
Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generators in metallic contact Yes Main Switch Boards, where placed Outboard of Generators.
If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard -
Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards - and -, are they constructed wholly of durable, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance Yes, is it of an approved type Yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework -, is the non-hygroscopic insulating material of an approved type Yes, and is the frame effectively earthed Yes Are the fittings as per Rule regarding:—spacing or shielding of live parts Yes - A.I.E.E., accessibility of all parts Yes, absence of fuses on back of board Yes, temperature rise of omnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the "off" position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side of switches No Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Generator Breakers Double Pole fully Automatic protection as to Magnetic overload & reverse current protection. Knife Blades disconnects for Equalizer. Out going circuits protected by Double Pole Thermal overload De-ion Type Air Circuit Breakers, all at proper capacity.
Are turbine driven generators fitted with emergency trip switch as per rule Yes Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material Yes Instruments on main switchboard 5 ammeters 7 volt-meters - synchronizing device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equalizer connection Yes
Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Voltmeter & Lamps. Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules A.I.E.E. are the fusible cutouts of an approved type Yes have the reversed

Lloyd's Register
Foundation

006797-006808-0091 1/2

current protection devices been tested under working conditions.....**Yes**.....**Joint Boxes, Section and Distribution Boards, is the**
construction, protection, insulation, material, and position of these as per rule.....**Yes**
Cables: Single, twin, ~~20000000~~ multicore.....**Yes**.....are the cables insulated and protected as per Tables IV, V, X or XI of the Rules.....**A.I.E.E.**
If the cables are insulated otherwise than as per Rule, are they of an approved type.....**Yes**.....**Fall of Pressure, state maximum between bus bars and**
any point of the installation under maximum load.....**2 1/2" L and 4" P**.....**Cable Sockets, are the ends of all cables having a sectional**
area of 0.04 square inch and above provided with soldering sockets.....**Yes**.....**Paper Insulated and Varnished Cambric Insulated Cables.**
If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed
with insulating compound.....**Yes**....., or waterproof insulating tape.....**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**.....Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit **Lead covered.**
Support and Protection of Cables, state how the cables are supported and protected. Cable Hangers & Clamps, Conduits & Pans, where
necessary.
If cables are run in wood casings, are the casings and caps secured by screws.....**None**....., 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 VIII.....**A.I.E.E.**
Refrigerated Chambers, are the cables and fittings in accordance with the special requirements.
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 Partitions, 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.....**Malleable Iron**
Earthing Connections, state what earthing connections are fitted and their respective sectional areas. All Fixtures & Equipment mounted on
Steel Supports & welded to Ship's construction, Neutral Conductors not grounded, Sheaths & Armour of all Feeders
bonded to Earth at Switchboard, by approved Clamps & bonding Jumpers......**Yes**
....., are their connections made as per Rule.....**Yes**
Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule......**None**.....**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**.....**Secondary Batteries, are they constructed and fitted as per Rule.**.....**None**
Fittings, are all fittings on weather decks, in stokeholds 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.....**Steel Guards**
are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected.....**Explosion Proof**
Fittings, Fixtures, Outlets, & Cable Installations......, how are the cables led
Cables by-pass the area & not run through or within protected enclosures except to supply particulars **Light.**
where are the controlling switches situated.....**Outside of Compartment.**
are all fittings suitably ventilated.....**Yes**....., are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials.....**Yes**
Heating and Cooking Appliances, are they constructed and fitted as per Rule. A.I.E.E. are air heaters constructed and fitted as per Rule......**None**
Searchlight Lamps, No. of......**None**....., whether fixed or portable.....**-**....., are their fittings as per Rule.....**-**
Arc 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.....**A.I.E.E.**.....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 axes of rotation **fore and aft & Vertical**....., 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.....**None**
....., if not of this type, state distance of the combustible material horizontally or vertically above the motors.....**-**.....and.....**-**
have machines of over 100 BPH been inspected by the Surveyors during manufacture and testing.....**Control Gear and Resistances, are the generator**
field and motor speed regulators, starters and controllers constructed and fitted as per Rule.....**A.I.E.E.**
Lighting Conductors, where lightning conductors
are required, are these fitted as per Rule.....**None**.....**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.....**-**.....are all fuses of the filled cartridge type.....**-**.....are they of an approved type.....**-**
If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office.....**-**
Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule......**-**

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHEN DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	250	240	1050	1200	Steam Turbines		
AUXILIARY (Ltg.)	2	40	120	330	1750	Electric Motor		
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	No. of Poles.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
		No. per Pole.	Total Nominal Area per Pole Mils.	No.	Mils.	Circuit.	Rule.			
MAIN GENERATOR	4	2,000,000	37	116.2	1040	✓	2116	60	V.C.	Lead & Armour
EQUALISER CONNECTIONS ...	1	500,000	37	116.2	520	✓	529	60	V.C.	" " "
Emergency Generator										
Emergency Generator										
Lighting M/G Set (MOTOR) ...	2	500,000	37	116.2	1058	✓	1058	50	V.C.	" " "
ROTARY TRANSFORMER (GENERATOR) ...	1	400,000	37	104	456	✓	456	50	V.C.	" " "
ENGINE ROOM Starbd. ...	1	30,860			50	✓	65	45	H.F.A.	Armour
BOILER ROOM Port ...	1	30,860			50	✓	65	45	"	"
AUXILIARY SWITCHBOARDS										
Lgt. Panel A Deck (p) ...	1	30,860			50	✓	65	100	"	"
" " Shelter Deck (s) ...	1	30,860			50	✓	65	100	"	"
E.R. Aux. Pnl. No. 1 ...	2	400,000			750	✓	912	60	V.C.	Lead & Armour
" " " No. 2 ...	3	400,000			1050	✓	1368	60	"	" " "
" " " No. 3 ...	2	500,000			550	✓	666	60	"	" " "
ACCOMMODATION										
Galley Panel ...	1	837000			100	✓	112	75	Rubber	" " "
Gyro Compass ...	1	30,860			30	✓	65	100	H.F.A.	Armour
Navigation Panel ...	1	30,860			50	✓	65	150	"	"
WIRELESS	1	41,700			30	✓	70	150	"	"
Searchlight										
MASTHEAD LIGHT	1	4100			.5	✓	13	350	"	"
SIDE LIGHTS	1	4100			.5	✓	13	40	"	"
COMPASS LIGHTS ... (3) ...	1	4100			.2	✓	13	40	"	"
Powerhouse Range	1	124,900			200	✓	219	100	"	"
CARGO LIGHTS Hold No. 1 ...	1	30,860			50	✓	65	100	"	"
Hold No. 2	1	30,860			50	✓	65	100	"	"
Hold No. 3	1	30,860			50	✓	65	100	"	"
Combination Engine Control Panel ...	1	6,530			15	✓	22	100	V.C.	Lead & Armourer

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
		No. per Pole.	Total Nominal Area per Pole Mils.	No.	Mils.	In Circuit.	Rule.			
BALLAST PUMP	1	1	83,700	19	66.4	77	✓	117	100	V.C. Lead & Armour
MAIN BILGE LINE PUMPS ...	1	1	83700	19	66.4	77	✓	127	80	" " " "
GENERAL SERVICE PUMP ...										
EMERGENCY BILGE PUMP ...										
Aux. Circ. Pump ...	1	1	106,000	19	74.5	110	✓	188	60	" " " "
CIRC. SEA WATER PUMPS ...	1	1	600,000	61	992	375	✓	596	60	" " " "
CIRC. FRESH WATER PUMPS ...										
AIR COMPRESSOR No. 1 & 2 (each) ...	1	1	133,000	19	83.7	150	✓	158	60	" " " "
FRESH WATER PUMP ...	1	1	6,530	7	30.5	5	✓	22	60	" " " "
ENGINE TURNING GEAR ...	1	1	26,000	7	61.2	30	✓	55.5	120	" " " "
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS ...	1	1	133,000	19	83.7	95	✓	158	140	" " " "
OIL FUEL TRANSFER PUMP ...	1	1	66,400	7	97.4	59	✓	99	120	" " " "
WINDLASS	1	1	296,400			260	✓	376	580	H.F.A. "
WINCHES, FORWARD (each) ...	4	1	198,700			187	✓	299	40ft & 140ft.	" "
Winch Feeders #210 & 211 ...		1	658,700			700	✓	670	"	"
WINCHES, AFT ... (each) ...	4	1	189,700			187	✓	299	40	" "
STEERING GEAR—										
(a) MOTOR GENERATOR ...										
(b) MAIN MOTOR ...	2	1	296,400			187	✓	376	80	" "
Mooring Winch ...	1	1	296,400			275	✓	376	90	" "
Mooring Motor										
VENTILATING FANS (each) ...	4	1	26,300			30	✓	55.5	70	V.C. " " "
Ventilation Panel ...	-	1	521,600			225	✓	565	70	H.F.A. "
F.D. Fans #1 & 2 (each) ...	1	1	106,000			77	✓	188	65	V.C. " " "
Whit Condensate Pumps ...	1	1	83,700			77	✓	117	65	" " " "
O.F. Service Pump ...	1	1	26,300			28	✓	55.5	60	" " " "
Whit Feed Pumps (each) ...	1	1	168,000			200	✓	286	60	" " " "
Aux. Condensate Pump ...	1	1	26,300			38	✓	55.5	60	" " " "

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Miller Electric Co., Jacksonville, Fla., for Gibbs Corp.

Electrical Engineers.

Date March 27th, 1950

COMPASSES.

Distance between electric generators or motors and standard compass 20ft.

Distance between electric generators or motors and steering compass 15ft.

The nearest cables to the compasses are as follows:—

A cable carrying 0.10 Ampères Light feet from standard compass Lights on feet from steering compass.

A cable carrying 20 Ampères 12ft feet from standard compass 9 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 Steady course in the case of the standard compass, and Nil degrees on Steady course in the case of the steering compass.

Builder's Signature.

Date March 27th, 1950

Is this installation a duplicate of a previous case — If so, state name of vessel —

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Electrical Installation, to the A.B.S. Requirements, has been examined throughout & found to be generally accordance with the Rules. The Material & Workmanship is good & the Installation tested under full working conditions, found satisfactory & is, in my opinion, eligible to be classed with the Machinery of this vessel.

Reference to Equalizer: The Positive & Negative Conductor capacity is far in excess of the 250KW Generator capacity - the full load of the Generator is 1040 Amperes where, as the installed Conductor capacity Positive & Negative 2040 Amperes. Half of 1040 Amperes equals 520 Amperes allowing for 50% unbalanced Equalizer current and the installed neutral capacity being 529 Amperes it is felt that the Equalizer is adequate and meeting all Rules.

Total Capacity of Generators 750 Kilowatts.

The amount of Fee ... Entered on: When applied for, Apr. 14th 1950
Rpt. 9 When received.
Traveling Expenses (if any) £ : : 19

A. A. Stewart
Surveyor to Lloyd's Register of Shipping.

United with
THE
BRITISH
CORPORATION
REGISTER.

Committee's Minute NEW YORK MAY 31 1950

Assigned Classification contemplated