

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

27067 1947

Received at London Office

Date of writing Report 16th Sept., 1947 When handed in at Local Office 23rd Sept., 1947 Port of Baltimore, Maryland

No. in Survey held at Baltimore, Maryland Date, First Survey June 29th, Last Survey August 30th 1947  
Reg. Book. 71613 on the S.S. "OAKLAND" (ex "David F. Barry") (Number of Visits 3)

Built at Portland, Oregon By whom built Oregon Shipbldg. Corp. Yard No. 746 Tons { Gross 7176 Net 4380

Owners A/S Warholm Port belonging to Oslo When built 1943

Electric Light Installation fitted by Oregon Shipbuilding Corp. Contract No. - When fitted 1943

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Two-wire Direct Current

Pressure of supply for Lighting 120 volts, Heating - volts, Power 120 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 40° C. Rise A.I.E.E. Standards, are they compound wound Yes

are they over compounded 5 per cent. No, 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 - Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing -

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 In engine room first grating level starboard side, 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 - 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 In engine room on generator flat

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 Ebony asbestos, 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

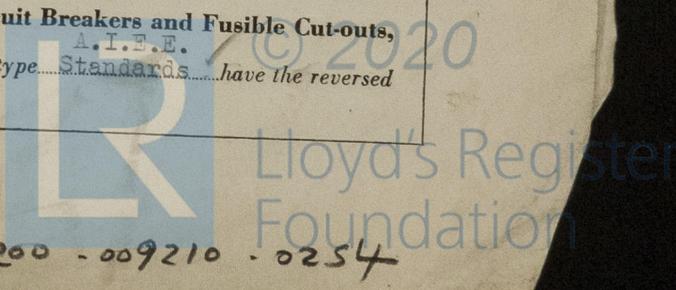
Are the fittings as per Rule regarding:—spacing or shielding of live parts A.I.E.E. Standards, accessibility of all parts Yes, absence of fuses on back of board Yes, temperature rise of omnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp on same fuses, are moving parts of switches alive 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 Each generator: 175 amp. DB breaker with overload & reverse current trips & a 3-pole isolating switch. Outgoing circuits: D.P. linked switches and fuses. Are turbine driven generators fitted with emergency trip switch as per rule - Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material Yes

Instruments on main switchboard 3 ammeters 3 voltmeters - 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 Earth lamps also voltmeter selector switch wired to give ground readings



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current protection devices been tested under working conditions.  **Joint Boxes, Section and Distribution Boards**, is the construction, protection, insulation, material, and position of these as per rule. A.I.E.E. Standard

Cables: Single, twin, ~~concentric~~, or multicore.  Are the cables insulated and protected as per Tables IV, V, X or XI of the Rules. Standards. A.I.E.E.

If the cables are insulated otherwise than as per Rule, are they of an approved type.  **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load. 3 volts

**Cable Sockets**, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets.  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. - or waterproof insulating tape. -

**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.  Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit. Covered

**Support and Protection of Cables**, state how the cables are supported and protected. Clipped to steel supports in accommodation and holes. Protected by sheet metal guards in hold spaces.

If cables are run in wood casings, are the casings and caps secured by screws. - 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. Standards

**Refrigerated Chambers**, are the cables and fittings in accordance with the special requirements.  Yes

**Joints in Cables**, state if any, and how made, insulated, and protected. In junction boxes.

**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 cables all holes efficiently bushed. Armoured state the material of which the bushes are made. -

**Earthing Connections**, state what earthing connections are fitted and their respective sectional areas. Cables effectively earthed.

are their connections made as per Rule.  Yes

**Alternative Lighting**, are the groups of lights in the propelling machinery space arranged as per Rule.  Yes **Emergency Supply**, state position and method of control of the emergency supply and how the generator is driven. -

**Navigation Lamps**, are these separately wired.  Yes controlled by separate switch and separate fuses.  Yes are the fuses double pole. Standard

are the switches and fuses grouped in a position accessible only to the officers on watch. In wheel house.

has each navigation lamp an automatic indicator as per Rule.  Yes **Secondary Batteries**, are they constructed and fitted as per Rule.  Yes

**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. Cast metal 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. - how are the cables led

where are the controlling switches situated. -

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. - are air heaters constructed and fitted as per Rule. -

**Searchlight Lamps**, No. of One whether fixed portable. - are their fittings as per Rule.  Yes

**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.  Yes 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. possible, 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. Drip proof

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. Standard

**Lightning Conductors**, where lightning conductors are required, are these fitted as per Rule. - **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.  Yes

DESCRIPTION OF GENERATOR	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
		Kilowatts	Volts	Amperes	Revs. per Min.		Fuel Used	Flash Point of Fuel
MAIN	3	20	120	167	400	Steam Reciprocating	-	-
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

DESCRIPTION	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT		Approximate Length (Lead and Return) Feet	Insulated with	HOW PROTECTED
	No. per Pole	Total Nominal Area per Pole Sq. Ins.	No.	Diameter	In Circuit	AMPERES			
MAIN GENERATOR	1	.1969	37	.082	167	233	50	Rubber	L.C. & Basket-weave Armoured
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER (GENERATOR)									
ENGINE ROOM Ltg. L.1	1	.0521	7	.097	58	74 x	40	"	"
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Salinity Ind.	1	.002	-	-	1	10 x	80	"	"
ACCOMMODATION	4	.0521	7	.097	48	74 x	150	"	"
1st Accommodation L	6	.0521	7	.097	25	74 x	440	"	"
Boat Deck Accom. L	7	.0829	19	.074	48	100 x	190	"	"
Wheelhouse	1	.020	7	.061	16	41 x	240	"	"
Pyro Compass	1	.013	7	.048	15	41 x	200	V. C.	"
WIRELESS	7	.020	7	.061	22	41 x	280	Rubber	"
SEARCHLIGHT	10	.008	7	.038	5	23 x	420	"	"
ASTHEAD LIGHT	1	.0032	7	.024	.42	11.5 x	440	"	"
COMPASS LIGHTS	1	.0032	7	.024	.42	11.5 x	110	"	"
3rd Deck Ltg	1	.0829	19	.074	50	100 x	200	"	"
2nd Deck Ltg	1	.0521	7	.097	25	74 x	420	"	"
1st Deck Ltg	1	.0829	19	.074	57	100 x	190	"	"
2nd Deck Ltg	1	.0521	7	.097	23	74 x	270	"	"

DESCRIPTION	No. of Motors	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT		Approximate Length (Lead and Return) Feet	Insulated with	HOW PROTECTED
		No. per Pole	Total Nominal Area per Pole Sq. Ins.	No.	Diameter	In Circuit	AMPERES			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
WATER PUMP										
ARC. SEA WATER PUMPS										
ARC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
FUEL TRANSFER PUMP										
INDLASS										
INCHES, FORWARD										
INCHES, AFT										
GEARING GEAR										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										
FRIG. COMP.	1	1	.0653	19	.066	59	87 x	200	Rubber LC & Basket-weave	Armoured

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.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass 25 feet

Distance between electric generators or motors and steering compass 20 feet

The nearest cables to the compasses are as follows:—

A cable carrying .2 Ampères .75 feet from standard compass .75 feet from steering compass.

A cable carrying 1 Ampères 4 feet from standard compass 7 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 any course in the case of the standard compass, and Nil degrees on any course in the case of the steering compass.

Builder's Signature.

Date

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 requirements of the American Bureau of Shipping has been in operation since 1943. The plans attached have been examined and found in accordance with A.B.S. Standards and generally in accordance with the Rules. The materials and workmanship are good and the installation has been examined under working conditions and found to be satisfactory, except the main generator equalizer connections are below Rule size. The dimensions in this report have been taken from the A.B.S. approved plans. These dimensions have been checked as far as possible on the ship and found correct.

In my opinion, the electrical installation is such as could be accepted by the Committee for Classification, subject to the main generator equalizer connections being increased to meet Rule requirements.

*Accepted*

Total Capacity of Generators 60 Kilowatts.

The amount of Fee ... \$100:00 : When applied for, 23 Sept., 1947  
Traveling Expenses (if any) £ 5:25 : When received, - 19

Surveyor to Lloyd's Register of Shipping.

*W. W. C. Lee*

*Noted*

6.11.47

Committee's Minute NEW YORK OCT 8 - 1947

Assigned Elec light

Im-5-44.—Transfer. Printed in U.S.A.  
(The Surveyors are requested not to write on or below the space for Committee's Minute)



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