

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report... 13TH OCTOBER 1947... When handed in at Local Office... 20TH OCTOBER 1947... Port of... GLASGOW

No. in Survey held at... GRANGEMOUTH... Date, First Survey... 22ND MAY... Last Survey... 4TH SEPTEMBER 1947

Reg. Book... on the... T.S.M. 'ADULIS' (EX. L.C.T. 835)... Tons { Gross... 397. Net... 228.

Built at... NOT KNOWN... By whom built... NOT KNOWN... Yard No... NOT KNOWN... When built... NOT KNOWN

Owners... SABEAN UTILITY CORPORATION LTD... Port belonging to... ADDIS ABABA

Electrical Installation fitted by... GRANGEMOUTH DOCKYARD CO LTD... Contract No... When fitted... 1947

Is vessel fitted for carrying Petroleum in bulk... No... Is vessel equipped with D.F... E.S.D... Gy.C... Sub.Sig...

Have plans been submitted and approved... ATTACHED... System of Distribution... TWO WIRE... Voltage of supply for Lighting... 220

Heating... 220... Power... 220... Direct or Alternating Current, Lighting... D.C... Power... D.C... If Alternating Current state periodicity... Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off... YES... Are turbine emergency governors fitted with a trip switch as per Rule... YES

Generators, are they compound wound... YES... are they level compounded under working conditions... YES

if not compound wound state distance between generators... and from switchboard... Where more than one generator is fitted are they arranged to run in parallel... No

are shunt field regulators provided... YES... Is the compound winding connected to the negative or positive pole... POSITIVE

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing... Have certificates of test for machines under 100 kw. been supplied... ADMIRALTY MACHINES

and the results found as per rule... Are the lubricating arrangements and the construction of the generators as per rule... YES

Position of Generators... IN ENGINE ROOM... is the ventilation in way of generators satisfactory... YES

are they clear of inflammable material... YES... if situated near unprotected combustible material state distance from same horizontally... and vertically...

are the generators protected from mechanical injury and damage from water, steam and oil... YES... are the bedplates and frames earthed... YES

and the prime movers and generators in metallic contact... YES... Switchboards, where are main switchboards placed... IN ENGINE ROOM NEAR GENERATORS

are they in accessible positions, free from inflammable gases and acid fumes... YES... are they protected from mechanical injury and damage from water, steam and oil... YES

if situated near unprotected combustible material state distance from same horizontally... and vertically... what insulation material is used for the panels... SINDANYO

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... YES

Is the frame effectually earthed... YES... Is the construction as per Rule... WITH EXCEPTION

including accessibility of parts... YES... absence of fuses on the back of the board... YES... individual fuses to pilot and earth lamps, voltmeters, etc... ALL ON ONE FUSE

locking of screws and nuts... YES... labelling of apparatus and fuses... YES... fuses on the "dead" side of switches... YES

Description of Main Switchgear for each generator and arrangement of equaliser switches... 100 AMP D.P. SWITCH WITH ADMIRALTY PATTERN FUSES

and for each outgoing circuit... 60 AMP D.P. SWITCHES WITH ADMIRALTY PATTERN FUSES

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... YES... Instruments on main switchboard... TWO

ammeters... TWO... voltmeters... synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection... YES

Earth Testing, state means provided... EARTH LAMPS

Switches, Circuit Breakers and Fuses, are they as per Rule... ADMIRALTY PATTERN... are the fuses an approved type... YES

are all fuses labelled as per Rule... YES... If circuit breakers are provided for the generators, at what overload current did they open when tested... YES

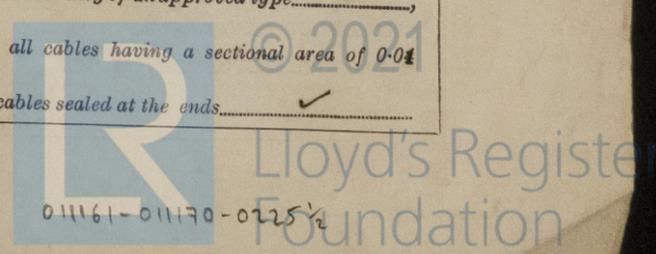
are the reversed current protection devices connected on the pole opposite to the equaliser connection... YES... have they been tested under working conditions, and at what current did they operate... YES

Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule... YES

Cables, are they insulated and protected as per the appropriate Tables of the Rules... 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... 1.8 VOLTS... are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets... YES

Are paper insulated and varnished cambric insulated cables sealed at the ends... YES



with insulating compound or waterproof insulating tape . 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 . Are cables laid under machines or floorplates . If so, are they adequately protected . Are cables in machinery spaces, galleys, laundries, etc., lead covered or run in conduit . State how the cables are supported and protected. **MAINS - V.I.R. CABLES IN CONDUIT CLIPPED THROUGH AIR SPACE.**
MACHINERY SPACE - L.C. CABLES CLIPPED TO STEEL TRAY.
ACCOMMODATION - L.C. CABLE CLIPPED TO WOODWORK.

Are all lead sheaths, armouring and conduits effectually bonded and earthed . Refrigerated chambers, are the cables and fittings as per Rule .
 Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands . Where unarmoured cables pass through beams, etc., are the holes effectually bushed and with what material **LEAD**. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule . Emergency Supply, state position and method of control .
 Navigation Lamps, are they separately wired controlled by separate double pole switches and fuses . Are the switches and fuses in a position accessible only to the officers on watch . Is an automatic indicator fitted . Secondary Batteries, are they constructed and fitted as per Rule . Are they adequately ventilated . What is the battery capacity in ampere hours **70 AMPERE HOUR (24 VOLT BATTERIES FOR STARTING MAIN ENGINES.)**
 Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof . Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present . If so, how are they protected .
 and where are the controlling switches fitted . Are all fittings suitably ventilated .
 are all fittings and accessories constructed and installed as per Rule . Searchlight Lamps, No. of . Whether fixed or portable . Are their fittings as per Rule . Heating and Cooking, is the general construction as per Rule .
 are the frames effectually earthed . Are heaters in the accommodation of the convection type . Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil . If situated near unprotected combustible material state minimum distance from same horizontally and vertically . Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment .
 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 services been supplied and the results found as per Rule . Control Gear and Resistances, are they constructed and fitted as per Rule . Lightning Conductors, where required are they fitted as per Rule . 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 . Are all fuses of the cartridge type . Are they of an approved type . Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships . Are the cables lead covered as per Rule . Spare Gear, if the vessel is for open sea service have spares been provided as per Rule . Are they suitably stored in dry situations . Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory .

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	15	220	68	1100	DIESEL ENGINE	FUEL OIL ABOVE 150°F.	
	1	5	220	22.7	1000	DIESEL ENGINE	FUEL OIL ABOVE 150°F.	
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	15	1	19/064	68	83	50	RUBBER	L.C.
" " EQUALISER	5	1	7/044	22.7	31	65	RUBBER	L.C.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS							
NAVIGATION LIGHTS	1	7/044	44	31	50	RUBBER	L.C.
LIGHTING AND HEATING							
HEAT ACCOMMODATION & ENGINE ROOM	1	7/036	15	24	70	RUBBER	L.C.
BATTERY CHARGING	1	7/044	31	31	24	RUBBER	L.C.
MIDSHIP ACCOMMODATION	1	7/044	24	31	40	RUBBER	L.C.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
CAPSTAN	1	10	1	7/064	45	46	90	RUBBER	L.C.
70 TON PUMP	1	7.4	1	7/044	30	31	72	RUBBER	L.C.
BILGE PUMP	1	5	1	7/044	20	31	36	RUBBER	L.C.

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 Engineers. Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass..... EIGHTEEN FEET

Minimum distance between electric generators or motors and steering compass..... ✓

The nearest cables to the compasses are as follows:—

A cable carrying 4.4 Ampères SEVEN feet from standard compass ✓ feet from steering compass.

A cable carrying 11 Ampères LED INTO feet from standard compass ✓ 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..... No If so, state name of vessel ✓

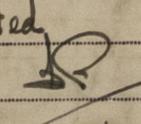
Plans. Are approved plans forwarded herewith..... YES If not, state date of approval ✓

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

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical installation of this vessel was fitted on board to Admiralty requirements and has been partially refitted, at this time, in accordance with the attached plan. On completion of this work, the installation was tested under working conditions and found satisfactory. The quality of materials and workmanship is good.

The electrical installation of this vessel as now seen is in good order and is, in my opinion, such as could be accepted for classification by this Society.

Noted

 12. 11. 47.

Total Capacity of Generators..... 20 Kilowatts.

The amount of Fee	£ 6 : - :	When applied for,19.....
	4 4 -	
Travelling Expenses (if any) £	: 8 - 5 :	When received,19.....

M. Gardiner
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 21 OCT 1947

Assigned.....

5m. 4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

