

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

NOV 1945

Date of writing Report.....19..... When handed in at Local Office..... 21 NOV 1945.....19..... Port of..... HULL..... Received at London Office.....

No. in Survey held at Goole & Hull Date, First Survey 24. 8. 45 Last Survey 6. 11. 19 45
Reg. Book. (Number of Visits..... 1.....)

on the M.V. "ACTUALITY". Tons { Gross 881 Net 462

Built at Goole By whom built Goole S.B. & R. Co.Ltd. Yard No. 426 When built 1945
Owners F.T. Everard & Son Ltd. Port belonging to London

Electrical Installation fitted by Humber Electrical Engineering Co. Ltd. Contract No. - When fitted 1945

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

Have plans been submitted and approved Yes 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 - 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 negative

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

Position of Generators Engine room No. 1 starboard No. 2 portside

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 Engine room forward bulkhead port side

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 "Syndanyo" 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 frame effectually earthed Yes

Is the construction as per Rule Yes, including accessibility of parts Yes, absence of fuses on the back of the board Yes, individual fuses to pilot and earth lamps, voltmeters, etc., Yes 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 One overload no voltage & circuit breaker for each generator.

and for each outgoing circuit Double pole quick break knife switches and double pole fuses for all principal circuits and single pole switches and double pole fuses for accomodation etc.

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 - Earth Testing, state means provided Lamps coupled to earth via switches and fuses.

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, 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 20%, are the reversed current protection devices connected on the pole opposite to the equaliser connection - have they been tested under working conditions, and at what current did they operate -

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 - state maximum fall of pressure between bus bars and any point under maximum load 4V, 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. 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 cables laid under machines or floorplates. No, if so, are they adequately protected. Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered. Yes or run in conduit. Yes State how the cables are supported and protected. In machinery spaces etc. L.C. clipped to perforated steel trays or direct to steelwork in accommodation etc. L.C. clipped to wooden battens or direct to woodwork.

Are all lead sheaths, armoring and conduits effectually bonded and earthed. Yes Refrigerated chambers, are the cables and fittings as per Rule. 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 and with what material. Lead Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. Yes Emergency Supply, state position. Yes and method of control. Yes

Navigation Lamps, are they separately wired. Yes controlled by separate double pole switches. Yes 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 Secondary Batteries, are they constructed and fitted as per Rule. Yes, are they adequately ventilated. Yes what is the battery capacity in ampere hours. 46

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. Yes Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. Yes, if so, how are they protected. Yes

are all fittings suitably ventilated. Yes

are all fittings and accessories constructed and installed as per Rule. Yes Searchlight Lamps, No. of. 46, whether fixed or portable. Yes

are their fittings as per Rule. Yes 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. Yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. Yes, if situated near unprotected combustible material state minimum distance from same horizontally. Yes and vertically. Yes 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. 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 services been supplied and the results found as per Rule. Yes 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 the cartridge type. Yes

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 Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. Yes are they 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	RATED AT			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.			Fuel Used.	Flash Point of Fuel.
MAIN No. 1.	1	25	220	113.5	1000	Diesel engine		
No. 2.	1	20	220	91	1000	"		
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 ... No. 1.	25	1	19/.083	113.5	191	72'	V.C.	L.C.
" " EQUALISER No. 2.	20	1	-do-	91	191	104'	"	"
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 ...							
Accommodation & chart room	3	7/.044	10	31	6	V.I.R.	L.C.

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	7/.064	46	100	V.I.R.	L.C.
NAVIGATION LIGHTS	1	3/.036	3	10	"	"
LIGHTING AND HEATING						
Engine room and bells	1	7/.029	10	15	5'	" & A.
Officers accommodation	1	7/.036	15	24	5'	"
Aft	1	7/.036	15	24	65'	"
Chart room and wheelhouse.	1	7/.029	5	15	30'	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
Forward Winch No. 1	1	24	1	19/.083	100	118	300'
" " No. 2	1	24	1	19/.083	100	118	150'
Windlass	1	18	1	19/.064	72	83	350'
Capstan	1	14	1	19/.052	58	64	120'
Steering Gear	1	4	1	7/.036	17.5	24	100'
Fuel pump	1	16	1	9/.064	64	83	48'
Oil separator & 4KW Heater	2	15	1	7/.044	5	31	70'
Air compressor	1	9	1	7/.064	30.5	46	50'
Ballast pump	1	11	1	7/.064	44	46	48'

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.

W. E. Shute
 Electrical Engineers.

Date _____

COMPASSES.

Minimum distance between electric generators or motors and standard compass 94'

Minimum distance between electric generators or motors and steering compass 189'

The nearest cables to the compasses are as follows:—

A cable carrying .2 Ampères inside feet from standard compass 5' feet from steering compass.

A cable carrying .2 Ampères 5 feet from standard compass inside 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 every course in the case of the standard compass, and Nil degrees on every course in the case of the steering compass.

W. E. Shute
 Builder's Signature. Date _____

Is this installation a duplicate of a previous case Yes If so, state name of vessel "ACTUALITY"

Plans. Are approved plans forwarded herewith No If not, state date of approval 28.5.43.

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 Equipment was installed in accordance with the approved plans. The materials used are of good quality and the workmanship is good. On 28.5.43 the equipment was operated under working conditions with satisfactory results and the insulation resistance of all circuits and apparatus was measured and found good. This equipment is in my opinion suitable for a classed vessel.

Total Capacity of Generators 45 Kilowatts.

The amount of Fee ... £ 26 : 5 :
 Travelling Expenses (if any) £ : :
 When applied for, 22 NOV 1946
 When received, 19

W. E. Cornell
 Surveyor to Lloyd's Register of Shipping.

FRI. 18 JAN 1946

Committee's Minute _____

Assigned *see minute on J.E. Rpt.*

149
 MADE AND PRINTED IN ENGLAND.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

