

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 28 Aug. 1950. When handed in at Local Office 29. 8 1950 Port of GLASGOW.

No. in Survey held at CLYDEBANK. Date, First Survey 3-5-50 Last Survey 14 August 1950.  
Reg. Book. (No. of Visits 7)

95005. on the M. V. OTTAWA. Tons (Gross)            Net           

Built at CLYDEBANK By whom built JOHN BROWN & CO. LTD. Yard No. 654. When built 1950.

Owners UNITAS INC. Port belonging to PANAMA

Installation fitted by JOHN BROWN & CO. LTD. When fitted 1950

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. Yes Radar Yes

Plans, have they been submitted and approved Yes. System of Distribution two wire. Voltage of Lighting 110.

Heating 110. Power 110. D.C. or A.C., Lighting DC. Power DC. If A.C. state frequency -

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 - Generators, are they compound wound Yes, and level compounded under working conditions Yes, if not compound wound state distance between generators - and from switchboard - Are the generators arranged to run in parallel Yes, 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

Position of Generators in engine room. 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 near 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 Insidanto. 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 Triple pole circuit breaker (Kind pole acting as equaliser) fitted with overload release and under voltage trips

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Midship bulkhead supports DP circuit breaker fitted with overload trips remainder of circuits DP fuses and fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule - Instruments on main switchboard 3 ammeters 3 voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices 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 Yes, are the fuses an Approved Type Yes make of fuses Siemens 2ed. are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 50% and at what current do the reversed current protective devices operate 150% full load

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 6 volts. are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets Yes 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 Yes, if so, are they adequately protected Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit - or of the "HR" type - State how the cables are supported or protected Main on fire and off gangway, RE LCAB and RIK LCAB clipped to steel tray under gangway Machinery spaces RE LCAB and RIK LCAB and RIK LC, clipped to steel tray and steel work Accommodation and crew spaces RIK LC, clipped to steel and woodwork.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight bulkheads provided with duck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes effectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule -

50

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule fe. Emergency Supply, state position fe.

Navigation Lamps, are they separately wired fe. controlled by separate double pole switches and fuses fe. Are the switches and fuses in a position accessible only to the officers on watch fe, is an automatic indicator fitted fe. Is an alternative supply provided fe.

Secondary Batteries, are they constructed and fitted as per Rule fe, are they adequately ventilated fe.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof fe.

Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present if so, how are they protected fe. Pump room kept in strict accordance to Rule requirements.

and where are the controlling switches fitted fe. Are all fittings suitably ventilated fe.

Searchlight Lamps, No. of fe, whether fixed or portable fe, are they of the carbon arc or of the filament type fe.

Heating and Cooking, is the general construction as per Rule fe, are the frames effectually earthed fe, are heaters in the accommodation of the convection type fe. 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 fe.

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 fe. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing fe.

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

Control Gear and Resistances, are they constructed and fitted as per Rule fe. Lightning Conductors, where required are they fitted as per Rule fe.

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 fe, are all fuses of an Approved Cartridge Type fe, make of fuse Siemens Ltd. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships fe. Are the cables lead covered as per Rule fe.

E.S.D., if fitted state maker Submarine Signal Co BOSTON, U.S.A. TYPE 1215, location of transmitter frame 169/170 Star and receiver frame 169/170 Port.

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations fe.

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory fe.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT			Revs. per Min.	TYPE.	PRIME MOVER.
			Kilowatts per Generator.	Volts.	Amperes.			
MAIN	2	Laurance Scott.	90.	110.	819.	500.	Steam.	Peter Arrhenius Ltd.
	1.	B.T.H.	60.	110.	530.	1000.	oil.	J. & H. McLean Ltd.
EMERGENCY ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	90.	2	61/093	818.	984.	36.	yc.	L.C.A.B.
" EQUALISER		1	61/093	-	492.	18.	"	"
	60.	2	37/083	560.	628.	66.	"	"
		1.	37/083	-	314.	33.	"	"
EMERGENCY ROTARY TRANSFORMER: MOTOR GENERATOR.								

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.). (from Main Switchboard)

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).	INSULATION.	PROTECTIVE COVERING.
Midship Switchboard.	1	61/093	300.	492.	550.	yc.	L.C.A.B.
Cooking Equip. PANTRY.	1	19/052	68.	110.	200.		
Slupe Galley.	1	19/083	180.	202.	240.		
Engine & Boiler Rm. Fans.	1	19/083	120.	202.	200.		
Engine Room Aux. Ford.	1	19/083	152.	202.	50.		
.. .. . Aft.	1	19/083	148.	202.	150.		
Refrig. Machinery.	1	19/064	67.	143.	250.		
Boat Winches.	1	19/052	79.	110.	100.		
Ventilation.	1	19/083	106.	202.	350.		
Lighting & Cabin Fans. Aft.	1	19/083	160.	202.	180.		
Lighting in Engine & B.C. Room.	1	19/083	113.	202.	20.		
Workshop. Machinery.	1	19/052	94.	110.	150.		

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
<u>Circuits from Main S.W. continued</u>							
Water Heaters and Laundry.	1	19/052	108.	110.	110.		
Laundry Washing Machine	1	19/064	102.	143.	290.		
Lighting up. Heater. Boiler Room	1	19/064	92.	143.	200.		
<u>Circuits from Sub. Switchboard:-</u>							
Lighting & Cabin Fans.	1	37/072	195.	260.	30.		
Cooking Equip.	1	19/052	89.	110.	60.		
Water Heaters.	1	19/052	82.	110.	60.		
Boat Winches.	1	19/052	79.	110.	30.		
Ventilation & Radar.	1	19/052	54.	110.	30.		
Searchlight.	1	19/052	27.	110.	500.		
Navigation, etc.	1	7/052	25.	37.	90.		
Wireless.	1	7/064	18.	46.	80.		

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Fuel Valve Cooling Pump	2	2	1	7/044	17.4.	31.	40.	yc.	L.C.A.B.
Priming Pump	1	3.5	1	7/052	30.	37.	100.	"	"
Oil Separator.	3	3.5	1	7/052	28.7.	37.	160.	"	"
Engine Room Vent Fans.	5	2.9	1.	7/064	24.	46.	75.	"	"

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.  
John Brown & Company, Limited.

*[Signature]*  
Secretary.

Electrical Contractors. Date 29 AUG 1950

COMPASSES.

Have the compasses been adjusted under working conditions...  
John Brown & Company, Limited.

*[Signature]*  
Secretary.

Builder's Signature. Date 29 AUG 1950

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

Is this installation a duplicate of a previous case... If so, state name of vessel *Quarry Master M.V. VIK FOSSE*

Plans. Are approved plans forwarded herewith... If not, state date of approval *22-11-48*

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith. *(to forward)*

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 fitted on board under special survey, tested under working conditions and found satisfactory. The materials and workmanship are good. During fitting out of the vessel a number of extra lights and appliances were installed at owners request. The cables were modified as found necessary and comply with Rules requirements.*

*Noted SW 14/9/50.*

Total Capacity of Generators *240* Kilowatts.

The amount of Fee ... £ *76* : : When applied for, *30 AUG 1950*

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

*[Signature]*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 30 AUG 1950*

Assigned *SEE ACCOMPANYING MACHINERY REPORT*

