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# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 9th Nov. 1953 When handed in at Local Office 10th Nov. 1953 Port of Quebec, P.Q.

No. in Survey held at Lauzon, P.Q. Date, First Survey 15th June, 53 Last Survey 9th November, 53

Reg. Book. (No. of Visits TWELVE)

35483S on the Steel Single Screw Steamer "ANDROS VENTURE" Tons { Gross 17845 Net 13280

Built at Lauzon, P.Q. By whom built Davie S.B. &amp; Rprg. Co. Ltd. Yard No. 595 When built 1953

Owners Andros Shipping Limited Port belonging to Montreal

Installation fitted by Davie S.B. &amp; Rprg. Co. Ltd. When fitted 1953

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. Radar Yes

Plans, have they been submitted and approved Yes System of Distribution Three Wire Voltage of Lighting 117 AC

Heating Power 450 D.C. or A.C., Lighting 117 Power 450 If A.C. state frequency 60

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 Yes Generators, are they compound wound No, and level compounded under working conditions

Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule Position of Generators in a fore &amp; aft line on Platform at Aft end of Engine Room at starting platform level.

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 in Fore &amp; Aft position off Centre line to Stbd. on same platform as 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 Ebony Asbestos Panels, if of synthetic insulating material is it an Approved Type, 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. One each 3 pole air circuit breaker with overload and reverse power relay,

and the switch and fuse gear (or circuit breakers) for each outgoing circuit No fuse thermal type circuit breakers throughout.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 2 ammeters 3 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection Earth Testing, state means provided Lamps Preference Tripping, state if provided Yes, and tested Yes

Switches, Circuit Breakers and Fuses, are they as per Rule As approved, are the fuses an Approved Type As approved make of fuses cartridge, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 880 Amps, and at what current do the reverse current protective devices operate 5% of Generator rating (20 kw) Cables, are they insulated and protected as per Rule Approved, 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 volts. 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, are any cables laid under machines or floorplates Yes, if so, are they adequately protected Yes State type of cables (if in conduit this should also be stated) in machinery spaces V.C.I.L. &amp; Bronze Arm, galleys V.C.I.L. &amp; Bronze Arm, and laundries State how the cables are supported or protected on hangers &amp; trays suitably clipped as approved

Are all lead sheaths, armouring and conduits effectually bonded and earthed 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 Domestic Refrigerated chambers, are the cables and fittings as per Rule Yes Have refrigeration fan motors been constructed under survey and test certificates supplied Are the motors accessible for maintenance at all times



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... Yes Emergency Supply, state position...  
St. Side Aft end of Engine Room on platform above Main Generators

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

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule... - state battery capacity...  
ampere hours... - Where required to do so does it comply with 1948 International Convention... -

Lighting, is fluorescent lighting fitted... No If so, state nominal lamp voltage... - and compartments where lamps are fitted... -

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

Searchlights, No. of... One whether fixed or portable... Fixed are they of the carbon arc or of the filament type... Filament

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... - 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... Yes

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... 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 sea services been supplied and the results found as per Rule... Yes

Lightning Conductors, where required are they fitted as per Rule... -

Ships carrying Oil having a Flash Point of less than 150° F. Have all the special requirements of the Rules for such ships been complied...  
with... Yes are all fuses of an Approved Cartridge Type... Yes make of fuse... non renewable Are the fittings for pump...  
rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... Yes Are all cables lead covered as per Rule... Yes

E.S.D., if fitted state maker... Aviation Electric location of transmitter and receiver... in Hold Port Side Frame 49 1/2 & Chart Room

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and 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	MAKER.	RATED AT				PRIME MOVER.	
			Kw. per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	General Electric Co.	400	450	642	1200	Steam Turbine	General Electric Co., Fitchburg, U.S.A.
EMERGENCY ROTARY TRANSFORMER	1	Westinghouse Co., U.S.A.	75	450	120		Diesel	Cummins Eng. Co., Columbus, Ohio
	2	- do -	5	120	43.5		Electric	Westinghouse Co., U.S.A.

#### GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	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	2	400	3	37/.2356	642	279 3/4	66	V.C.I.L.	Bronze Armour
" " EQUALISEE									
EMERGENCY GENERATOR	1	75	1	19/.1045	120	158	50	V.C.I.L.	Bronze Armour
ROTARY TRANSFORMER MOTOR	2	5	1	7/.0051	10.5	22	70	- do -	- do -
" " GENERATOR	2	5	1	7/.0051	43.5	22	70	- do -	- do -

#### MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.	No. of	Kw.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Eng. Swb. 450/117 V. Transformer (PRI)	1		7/.0130	10	41	30	V.C.I.L. Bronze Armour
Ford Swb. 450/117 V. - do - - do -	1		7/.0130	27.8	41	30	- do - - do -
Main Swb. 450/117 V. - do - (Secondary)	1		19/.1569	191	217	50	- do - - do -
L.1. Aft Pump Room Lighting	1		7/.0130	5.2	41	394	- do - - do -
L.2. Upper Dk. Lighting	12 way		19/.1045	52.4	158	210	- do - - do -
L.2 (1) Upper Dk. Lighting Stbd.	12 way		19/.1045	30.	158	100	- do - - do -
L.3 Poop Dk. Lighting	10 way		7/.0521	44	99	130	- do - - do -
L.3 (1) Poop Dk. Lighting Stbd.	10 way		7/.0521	22.4	99	90	- do - - do -
L.4 Engine Room Lighting Panel	24 way		7/.0521	45.7	99	30	- do - - do -
L.5 Boiler Room - do - - do -	16 way		7/.0521	30	99	206	- do - - do -
L.6 Steering gear - do - - do -	2 way		7/.0051	3.9	22	186	- do - - do -
L.9 Main Turbo Gen. Ford Heater	1		7/.0051	10.	22	44	- do - - do -
L.10 - do - - do - - do -	2 way		7/.0051	10.	22	66	- do - - do -
Eng. Swb. 450/117 V. Trans. (Secondary)	1		7/.0521	38.6	99	30	- do - - do -
EL.1. Aft Quarters Eng. Panel	8 way		7/.0130	11.7	41	150	- do - - do -

#### DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
Eng. Room Emg. Lighting	4 way	1	7/.0051	13	22	30	V.C.I.L. Bronze Armour
3 Boiler Room - do -	4 way	1	7/.0051	8.4	22	200	- do - - do -
4 Emg. Diesel Gen. Heater		1	7/.0051	4.3	22	50	- do - - do -
rd Swb. 450/115 V. Transformer (Second)		1	19/.1045	107.1	158	30	- do - - do -
01 Midship General Lighting	12 way	1	7/.0521	55.1	99	50	- do - - do -
01 (1) - do - Port	12 way	1	7/.0521	32	99	10	- do - - do -
02 Fo' castle Lighting Panel	8 way	1	7/.0206	5.6	56	420	- do - - do -
03 Ford Pump Room Lighting		1	7/.0130	2.6	41	420	- do - - do -
04 Cargo Circ. Lighting Ford		1	7/.0082	5.2	30	410	- do - - do -
05 (1) - do - Aft Stbd.		1	7/.0051	5.2	22	320	- do - - do -
05 (2) - do - Aft Port		1	7/.0051	5.2	22	320	- do - - do -
0101 Nav. Light Panel		1	7/.0082	2.6	30	90	- do - - do -
0102 Radar		1	7/.0130	12	41	80	- do - - do -
0104 Mid. Emer. Light Panel	16 way	1	7/.0206	23.	56	90	- do - - do -
0105 Sounding System		1	7/.0051	3.5	22		- do - - do -
0101 Fwd. Emg. Swd. DC. Bus Tie		1	19/.1045	37	158	820	- do - - do -
0102 Hydro Power		1	7/.0032	8.	15	1000	- do - - do -
0103 Diesel Engine Battery Charging		1	7/.0051	10	22	80	- do - - do -
0104 Radio Battery Charging		1	7/.0051	15	22	110	- do - - do -
0105 General Alarm		1	7/.0051	6	22	110	- do - - do -
0106 Hydro Compass		1	7/.0032	6	15	90	- do - - do -

#### 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.			
Main Circulating Pump	1	125	1	19/.1659	155	217	200	V.C.I.L.	Bronze Armour
Bilge and Ballast Pump	1	15	1	7/.0130	19.2	41	310	- do -	- do -
Fire & General Service Pump	1	50	1	7/.0521	59.5	99	230	- do -	- do -
Boiler Forced draft Fans	2	83	1	19/.1659	100	217	240	- do -	- do -
Fuel oil Transfer Pump	1	30	1	7/.0521	40.4	99	330	- do -	- do -
Fuel oil Service Pumps	2	15	1	7/.0130	19.2	41	340	- do -	- do -
Lub. Oil Service Pumps	2	25	1	7/.0206	32.2	56	90	- do -	- do -
Lub. Oil Purifiers	2	1 1/2	1	7/.0051	2.3	22	60	- do -	- do -
Ship Service Air Compressor	1	25	1	7/.0206	31.3	56	190	- do -	- do -
Main Condensate Pumps	2	20	1	7/.0130	25.1	41	280	- do -	- do -
Atmos. Exh. Cond. Circ. Pump	1	20	1	7/.0130	25.1	41	270	- do -	- do -
Water Service Pumps	2	15	1	7/.0130	19.2	41	250	- do -	- do -
Aux. Cond. Circulating Pumps	2	10	1	7/.0051	12.5	22	120	- do -	- do -
Aux. Condensate Pumps	2	10	1	7/.0051	13.0	22	120	- do -	- do -
Condensate & Drain Transfer	2	7 1/2	1	7/.0051	10.5	22	260	- do -	- do -
Sanitary Pump	1	2	1	7/.0051	3	22	240	- do -	- do -
Ship Service Frig Compressor	2	7 1/2	1	7/.0051	10	22	100	- do -	- do -
Turning Gear	1	7 1/2	1	7/.0051	10	22	90	- do -	- do -
Combustion Control Compressor	1	5	1	7/.0051	6.9	22	270	- do -	- do -
Distiller Condensate Pump	2	3	1	7/.0051	4.0	22	230	- do -	- do -
Brine Discharge Pump	2	3	1	7/.0051	4.0	22	220	- do -	- do -
Wash Water Pumps	2	2	1	7/.0051	3.0	22	120	- do -	- do -
Potable Water Pump	1	2	1	7/.0051	3.0	22	100	- do -	- do -
Priming Pumps	2	1 1/2	1	7/.0051	2.2	22	300	- do -	- do -
Gland Exhauster	1	1 1/2	1	7/.0051	2.2	22	160	- do -	- do -
Steering Gear Motors	2	50	1	7/.0521	58.1	99	200	- do -	- do -
E.R. BR. Supply Fans	4	7 1/2	1	7/.0051	11.0	22	180	- do -	- do -
E.R. BR. Exhaust Fans	2	5	1	7/.0051	7.5	22	200	- do -	- do -
Aft & Midships Ventilation	1	5	1	7/.0051	7.5	22	40	- do -	- do -
- do - - do -	2	3		7/.0051	4.5	22	50	- do -	- do -
- do - - do -	1	2		7/.0051	3.0	22	40	- do -	- do -
- do - - do -	1	1 1/2		7/.0051	2.5	22	290	- do -	- do -
- do - - do -	3	1		7/.0051	1.4	22	200	- do -	- do -
- do - - do -	1	1/2		7/.0051	1.0	22	130	- do -	- do -
- do - - do -	1	8		7/.0051	12.0	22	370	- do -	- do -
Aft Pump Room Supply	1	5		7/.0051	7.5	22	160	- do -	- do -

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.



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.

DAVIE SHIPBUILDING & REPAIRING CO. LTD.

Electrical Contractors.

Date 14<sup>th</sup> Nov 1953

# COMPASSES.

Have the compasses been adjusted under working conditions. Yes

DAVIE SHIPBUILDING & REPAIRING CO. LTD.

Builder's Signature.

Date 14<sup>th</sup> Nov 1953

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

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

Plans. Are approved plans forwarded herewith. No If not, state date of approval. 7-7-53. N. YK.

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

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.) The Electrical equipment has now been installed on board this Vessel under Special Survey and in accordance with the Approved Plans and the Society's Rules for Electrical equipment. Satisfactory heat runs and parallel tests were carried out after installation. The complete system was megger tested throughout and the workmanship and materials are good.

It is recommended that the Electrical Equipment in conjunction with the remaining Machinery is eligible in my opinion to be Classed in the Society's Register Book.

30012271-Transfer (MADE AND PRINTED IN ENGLAND.)  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

Total Capacity of Generators 875 ✓ Kilowatts.

The amount of Fee ... \$ 600<sup>00</sup> : When applied for, £ 5.10.54

Travelling Expenses (if any) ✓ Please see Steel Rpt. When received, 19

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRIDAY 1 JUN 1954

Assigned See Rpt. 4a



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