

Ind. Rpt.

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# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

26 JUL 1945

Received at London Office

Date of writing Report 27th. May 1945 When handed in at Local Office 2nd. June 1945 Port of QUEBEC, P.Q.

No. in Survey held at LAUZON, P.Q. Date, First Survey 30th. Oct. 44 Last Survey 26th. May 1945  
Reg. Book. (Number of Visits) Daily attendance

on the Twin Screw TRANSPORT FERRY HMS-LST (3) 3507 Tons { Gross 4290.74  
Net 2430.45

Built at LAUZON, P.Q. By whom built DAVIE SHIPBUILDING & REPAIRING CO. LTD. Yard No. 562 When built 1945

Owners. BRITISH ADMIRALTY Port belonging to --

Electric Light Installation fitted by DAVIE SHIPBUILDING & REPAIRING CO. LTD. Contract No. 562 When fitted 1945

Is the Vessel fitted for carrying Petroleum in bulk NO

System of Distribution TWO WIRE

Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 volts,

Direct or Alternating Current, Lighting Direct current Power Direct current

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 Yes, are they compound wound Yes

are they over compounded 5 per cent. Yes, 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 Yes

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes

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 Two 120 KW Turbo-Generators. P&S Engine Rooms, Aft. on raised Platforms.

Two 60 KW Diesel Generators in Diesel Generator Compartments, 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 One in Port and one Starboard Engine Rooms, on centreline Bhd. at Cylinder top level

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 Yes

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 Yes, 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 --, and is the frame effectively earthed Yes

Are the fittings as per Rule regarding:—spacing or shielding of live parts Yes, 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 Yes, 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 Circuit Breakers & Double pole knife switches, fitted with quick break splash switches.

Equalizer switches are not fitted.

Are turbine driven generators fitted with emergency trip switch as per rule Yes, Are cupboards or compartments containing switchboards composed of fire-resisting material Yes, Instruments on main switchboard Two ammeters Three volt-meters --, synchronizing device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equalizer connection --

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Switch, fuse & lamp testing device.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes, are the fusible cutouts of an approved type Yes, have the reversed

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

Cables: Single, twin, concentric, or multicore **Single** are the cables insulated and protected as per Tables IV, V, X or XI of the Rules **Yes**

If the cables are insulated otherwise than as per Rule, are they of an approved type **No** Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load **4 to 5 volts** Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets **Yes** 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 **Yes**, or waterproof insulating tape **Yes** 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 **Yes** Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit **Lead covered**

Support and Protection of Cables, state how the cables are supported and protected **On perforated trays for Cable Main runs etc. in steel conduit through magazines, with metal cases fitted over same where necessary**

If cables are run in wood casings, are the casings and caps secured by screws **None**, are the cap screws of brass **No**, are the cables run in separate grooves **No** If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table **Yes**

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 **No joints in cables**

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 holes efficiently bushed **Yes** state the material of which the bushes are made **Sheet lead**

Earthing Connections, state what earthing connections are fitted and their respective sectional areas **All cables are of the lead cased variety, and are clipped direct to the Hull throughout**

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 **Admiralty Practice of Comprehensive system of emergency bulkhead terminals & cabling for all vital Services throughout the Vessel.**

Navigation Lamps, are these separately wired **Yes** controlled by separate switch and separate fuses **Yes**, are the fuses double pole **Yes** are the switches and fuses grouped in a position accessible only to the officers on watch **Yes**

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; **NO**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **Installations wired & fitted in accordance with the Naval Manual of Explosive regulations, how are the cables led Lead covered cables all run in steel conduits.**

where are the controlling switches situated **Outside of compartments & at least 2" clear of bulkheads of these compartments.**

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 **Yes**, are air heaters constructed and fitted as per Rule **Yes**

Signalling Projector **No. of One 10"**, whether fixed or portable **Fixed**, are their fittings as per Rule **Yes**

Are 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 **Yes**, 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 **Totally enclosed Ventilated** 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 **Yes** Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule **Yes** Lightning Conductors, where lightning conductors are required, are these fitted as per Rule **Steel Mast 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** **Yes** are all fuses of the filled cartridge type **No** are they of an approved type **Yes**

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office **Yes**

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 ... ..	2	120	225	534	1250	Steam Turbines	-	
AUXILIARY ...	2	60	225	266	750	Heavy Oil Engines	Diesel Oil Above 150°	
EMERGENCY ...	-							
ROTARY TRANSFORMER	-							

See List Appn 138, 1726 of 1-12-53. There are 4 Steam generators & 2 driven by oil engines. 17.3.54

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR Two ...	1	1.0	127	0.103	534	932	110 & 120	Varnished Cambric	Lead covered
EQUALISER CONNECTIONS ...	-								
AUXILIARY GENERATOR Two ...	1	0.4	61	0.093	266	462	100 & 180	" "	" "
EMERGENCY GENERATOR ...	-								
ROTARY TRANSFORMER (MOTOR GENERATOR) ...	-								
ENGINE ROOM "Circuit B" ...	1	0.06	19	0.064	90	135	30	" "	" "
BOILER ROOM "S. B" ...	1	0.06	19	0.064	90	135	30	" "	" "
AUXILIARY SWITCHBOARDS ...	-								
Inter Connecting Cables	1	0.5	61	0.103	300	540	60	" "	" "
" " " "	1	0.5	61	0.103	300	540	100	" "	" "
Degaussing Equipment	1	0.15	37	0.072	121	246	80	" "	" "
ACCOMMODATION ...	-								
Lighting Circuit(S) "N"	1	0.15	37	0.072	180	246	20	" "	" "
" " (P) "N"	1	0.15	37	0.072	180	246	20	" "	" "
Power Circuit(S) "P"	1	0.15	37	0.072	155	246	50	" "	" "
" " (P) "P"	1	0.15	37	0.072	120	246	50	" "	" "
WIRELESS ...	1	0.025	7	0.064	30	75	170	" "	" "
SEARCHLIGHT ...	-								
MASTHEAD LIGHT ...	1	0.003	64	0.008	0.036	10	140	Tough Rubber Sheath	Phosphur Bronze braided.
SIDE LIGHTS ...	1	0.003	64	0.008	0.036	10	70	" "	" "
COMPASS LIGHTS ...	-								
POOP LIGHTS ...	-								
CARGO LIGHTS ...	-								
ARC LAMPS ...	-								
HEATERS ...	-								

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
		No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ...	-									
MAIN BILGE LINE PUMPS ...	-									
GENERAL SERVICE PUMP ...	-									
EMERGENCY BILGE PUMP ...	-									
SANITARY PUMP ...	-									
CIRC. SEA WATER PUMPS ...	-									
CIRC. FRESH WATER PUMPS ...	-									
Refrigerating Compressor	1	1	0.007	7	0.036	18.2	24	50	Varnish Cambric	Lead Covered.
Refrigerating Water Pump	1	1	0.003	3	0.036	2.1	10	50	" "	" "
ENGINE TURNING GEAR ...	-									
ENGINE REVERSING GEAR ...	-									
LUBRICATING OIL PUMPS ...	-									
OIL FUEL TRANSFER PUMP ...	-									
WINDLASS ...	-									
Boat WINCHES, PORT	1	1	0.06	19	0.064	113	135	200	" "	" "
" " Starboard	1	1	0.06	19	0.064	113	135	200	" "	" "
WINCHES, AFT ...	-									
STEERING GEAR—										
(a) MOTOR GENERATOR ...	-									
(b) MAIN MOTOR ...	-									
WORKSHOP MOTOR ...	-									
VENTILATING FAN (S) Circuit C	11	1	0.15	37	0.072	80	246	20	" "	" "
" " (P) " C	12	1	0.15	37	0.072	60	246	20	" "	" "
Cargo Deck Ventilation (S) A	3	1	0.15	37	0.072	120	246	50	" "	" "
" " (P) A	2	1	0.15	37	0.072	80	246	50	" "	" "
Boat Door Motors	2	1	0.01	7	0.045	25	31	140	" "	" "
Ramp Motor	1	1	0.06	19	0.064	118	135	540	" "	" "

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.

DAVIE SHIPBUILDING & REPAIRING CO. LTD.

*[Signature]* Electrical Engineers.

Date 1st June 1945

GENERAL SUPERINTENDENT

COMPASSES.

nearest Distance between electric ~~XXXXXX~~ motor and standard compass 20 feet

nearest Distance between electric ~~XXXXXX~~ motors and steering compass 24 feet

The nearest cables to the compasses are as follows:— Compass corrector coils are fitted on the compasses in connection with the Degaussing Equipment.

A cable carrying 20 Ampères 10 feet from standard compass 10 feet from steering compass.

A cable carrying 12 Ampères 20 feet from standard compass 14 feet from steering compass.

A cable carrying 41 Ampères 22 feet from standard compass 25 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 course in the case of the standard compass, and Nil degrees on course in the case of the steering compass.

DAVIE SHIPBUILDING & REPAIRING CO. LTD.

*[Signature]* Builder's Signature.

Date 1st June 1945

GENERAL SUPERINTENDENT

Is this installation a duplicate of a previous case YES If so, state name of vessel G.N. 948

General Remarks (State quality of workmanship, opinions as to class, &c. This ELECTRICAL installation has

been fitted on board this Vessel under Special Survey and in accordance with the Approved Plans and Specifications forwarded by the British Admiralty and has been satisfactorily tested under full Load conditions.

Megger tests carried out and found in order.

The materials and workmanship are good and sound.

Copies of Certificates of test for Generators Nos. BCT 11812 and BCT 11814 attached "Report 4c" covering Oil Engines Nos. 1059 and 1060 also Generators Nos. 90301 and 90693 also attached.

Total Capacity of Generators 360 Kilowatts.

The amount of Fee ... \$ 140.00 When applied for, 28th June 45

Traveling Expenses (if any) ... Included with Machinery. When received, 19

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

Committee's Minute FRI. 24 AUG 1945

Assigned See F.E. machy. rpt.

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)

