

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

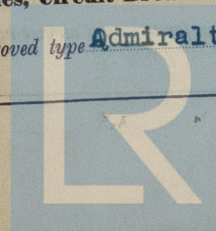
24 APR 1943

Received at London Office

Date of writing Report Jan. 25 1943 When handed in at Local Office 10 Port of QUEBEC, P.Q.  
 No. in Survey held at LAUZON P.Q. Date, First Survey 3rd. April/42 Last Survey 18th. Dec./42  
 Reg. Book. (Number of Visits 37)  
 on the Steel Single Screw H.M.S. "FLINT" Tons { Gross 452  
 Net 159  
 Built at Lauzon, Levis P.Q. By whom built Geo. T. Davie & Sons Ltd. Yard No. 17 When built 1942  
 Owners British Government Port belonging to -  
 Electric Light Installation fitted by Geo. T. Davie & Sons Ltd. Contract No. 17 When fitted 1942  
 Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Two wire single conductor system.Pressure of supply for Lighting 110V volts, Heating 110 volts, Power 110 volts.Direct or Alternating Current, Lighting D.C. Power D.C.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 YesGenerators, do they comply with the requirements regarding temperature rise Yes, are they compound wound Yesare 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 YesHave certificates of test results for machines under 100 kw. been submitted and approved NoHave machines over 100 kw. been inspected by the Surveyors during manufacture and testing -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 YesAre the lubricating arrangements of the generators as per Rule YesPosition of Generators One steam starb'd side E.R. For'd End Bulkhead, is the ventilation One diesel " " E.R. Aft " "in way of the generators satisfactory Yes, are they clear of all inflammable material Yes if situated near unprotectedwoodwork or other combustible material, state distance of same horizontally from or vertically above the generators No and -are the generators protected from mechanical injury and damage from water, steam or oil Yes, are their axes of rotation fore and aft YesEarthing, are the bedplates and frames of the generating plant efficiently earthed Yes, are the prime movers and their respective generatorsin metallic contact Yes Main Switch Boards, where placed Starb'd side Aft E.R. Bulkhead, separate platformabove generators switchboard enclosed in separate metal casing with sliding glass doors in front,

in thwart ship direction. If 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 -Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanicalinjury and damage from water, steam or oil Yes, if situated near unprotected woodwork or other combustible material, state distance of samehorizontally from or vertically above the switchboards - and -, are they constructed wholly of durable, non-ignitable non-absorbentmaterials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance Yesis 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 othernon-hygroscopic insulating material, and the slab similarly insulated from its framework -, is the non-hygroscopic insulating material of an approvedtype -, and is the frame effectively earthed Yes. Are the fittings as per Rule regarding:— spacing or shielding of live partsYes, accessibility of all parts Yes, absence of fuses on back of board None, temperature rise ofomnibus 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 ofswitches No Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switchesI.E.E. Circuit breakers fitted into reverse current overload under voltage released. Equalizerswitch fitted in positive pole of each machine. Are cupboards or compartments containing switchboards composed offire-resisting material or lined with approved material Yes Instruments on main switchboard 2 ammeters 2voltmeters - synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connectionYes Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system1 set test lamp on switchboard, switch on each pole Switches, Circuit Breakers and Fusible Cut-outs, Admiralty approveddo these comply with the requirements of the Rules Yes are the fusible cutouts of an approved type Admiralty approved



current protection devices been tested under working conditions **Yes- 10 amps.** **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 **multicore** 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 **—** **Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load **2 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 **None**, or waterproof insulating tape **—** **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, lavatories, bathrooms and lavatories lead covered or run in conduit **Lead covered**

**Support and Protection of Cables, state how the cables are supported and protected **Perforated carrying trays fastened with hangers 3" from steel decks, cables laid in trays supported by brass clips and screws approx. 8" apart. All cables lead covered, no splicing, lead in sealed junction boxes and bulkhead glands to main board. Magazine cables are in metal conduits, the casings and caps secured by screws, are the cap screws of brass, are the cables run in****

separate grooves **—** If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII **Yes**

**Refrigerated Chambers, are the cables and fittings in accordance with the special requirements: **Domestic only****

**Joints in Cables, state if any, and how made, insulated, and protected **None****

**Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands **Both**** **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 **Lead**

**Earthing Connections, state what earthing connections are fitted and their respective sectional areas **W.T. & Asdic Section area Admiralty specification 1/2" copper tape - 1/32" thick.****

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 **Diesel driven emergency set in engine room****

**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; if so, how are they protected **Conduit and locked fittings. cable run through conduits airtight and gas proof fittings Admiralty pattern.**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **Yes, conduit and locked fittings. cable run through conduits airtight and gas proof fittings** how are the cables led

where are the controlling switches situated **outside compartment above entrance**

are all fittings suitably ventilated **Yes**, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials **Yes**

**Heating Appliances, are they constructed and fitted as per Rule **Yes**** are air heaters constructed and fitted as per Rule **—**

**Searchlight Lamps, No. of **one x 20"****, whether fixed or portable **Fixed**, are their fittings as per Rule **Yes** **two 6" signalling** **portable**

**Arc 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**

if not of this type, state distance of the combustible material horizontally or vertically above the motors **—** and **—**

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing **None** **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 **Yes** **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**

are all fuses of the filled cartridge type **—** are they of an approved type **—**

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

**Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule **Yes****

## 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	110	130	500	Single cylinder steam engine.	Coal	
AUXILIARY ...	1	10	110	87	1200	Diesel Engine.	Diesel fuel	
EMERGENCY ...								
ROTARY TRANSFORMER								

## GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rate.			
MAIN GENERATOR ...	15	1	No. 6187A	.072	145	152	25 ft.	Rubber	Lead covered
EQUALISER CONNECTIONS ...	—	1	37	.072	"	"	25 ft.	"	" "
AUXILIARY GENERATOR ...									
EMERGENCY GENERATOR ...	1	No. 6187A-37	.072			152	25 "	"	" "
ROTARY TRANSFORMER MOTOR GENERATOR ...									
ENGINE ROOM ...									
BOILER ROOM ...									
AUXILIARY SWITCHBOARDS									
Shore Conns.	2	No. 6187A 37	.072		100	152	50 "	Rubber	Lead covered laid on
20 Gaussing	2	6191A 7	.044		26	31	20 "	"	perforated trays, cables
R. D. F.	2	6195A 3	.036		4	10	80 "	"	secured by brass clips.
2 - 6" Signal Lamps	2	6192A 7	.044		5	31	115 "	"	"
Asdic	2	2533S			9		150 "	"	"
ACCOMMODATION For'd lighting	2	6192A 17	.044		18	31	135 "	Rubber	"
A fter "	2	6192A 7	.044		10	31	20 "	"	"
Battery Charging Board	2	6195A 3	.036		3 a mps. 10			"	"
Spare	2	Not connected	20 amp. fuses.					"	"
WIRELESS									
SEARCHLIGHT 20"	2	6192A 7	.044		10	31	110 ft.	Rubber	"
MASTHEAD LIGHT									
SIDE LIGHTS Nav. Lts.	2	6193A 7	.036		9	24	90 ft.	"	"
COMPASS LIGHTS									
VENT. HEAT	2	6190A 19	.052		20	64	25 ft.	"	"
VENT. HEAT	2	6190A 19	.052		18	64	80 "	"	"
Aux. Circuit	2	6195A 3	.036		10A		30	"	"
HEATERS ...									

Nav. Lights

## MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rate.			
BALLAST PUMP ...										
MAIN BILGE LINE PUMPS ...										
GENERAL SERVICE PUMP ...										
EMERGENCY BILGE PUMP ...										
SANITARY PUMP ...										
CIRC. SEA WATER PUMPS ...										
CIRC. FRESH WATER PUMPS ...										
AIR COMPRESSOR ...										
FRESH WATER PUMP ...										
ENGINE TURNING GEAR ...										
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS ...										
OIL FUEL TRANSFER PUMP ...										
WINDLASS ...										
WINCHES, FORWARD ...										
WINCHES, AFT ...										
STEERING GEAR—										
(a) MOTOR GENERATOR ...										
(b) MAIN MOTOR ...										
WORKSHOP MOTOR ...										
VENTILATING FANS ...										



All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28). **Yes**

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules. **Yes**

The foregoing is a correct description.

**Geo. T. Davie & Sons Ltd.**

PER

*Chas. Brandeis*

Electrical Engineers.

Date

**COMPASSES.**

Distance between electric generators or motors and standard compass 40 feet compass house -

Distance between electric generators or motors and steering compass 40 feet wheel house

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères 4 ft. feet from standard compass 4ft. feet from steering compass.

A cable carrying 5 Ampères 9 ft. feet from standard compass 7ft. feet from steering compass.

A cable carrying 1 Ampères 1 ft. feet from standard compass 1ft. feet from steering compass. compass corrector conduit

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 degrees of course in the case of the standard compass, and degrees of course in the case of the steering compass.

**Geo. T. Davie & Sons Ltd.**

PER

*Chas. Brandeis*

Builder's Signature.

Date 18/1/43

Is this installation a duplicate of a previous case **Yes** If so, state name of vessel H.M.S. "DOCHET" MTI Rpt. 5801

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

The electrical equipment of this Vessel has been fitted on board under Special Survey and in accordance with the approved plans and tested under full working conditions and found satisfactory.

The materials and workmanship are good and sound.

This Vessel was accepted by Representatives of the British Admiralty Technical Mission on 18th. December, 1942, and due to severe ice condition, will remain at this Port until April 1943 when compass adjustment will be made, variations noted and transmitted at that time.

*Noted  
L.F.  
20/4/43.*

Total Capacity of Generators 25 Kilowatts.

The amount of Fee ... £ 100.00 : When applied for, Mch 29. 1943  
Travelling Expenses (if any) £ : : When received, 19  
incl. with Hull Rpt.

*L.A. Hawax*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 7 MAY 1943

Assigned

*See IFE machy rpl*



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Foundation