

NAVY ELECTRICS/ELECTRONICS PRE & DURING WW2

SYSTEM/EQUIPMENT RESPONSIBILITY.

The electrical and electronic equipments and systems in RCN ships during the above period were operated and maintained by several different Branches, organized as in the Royal Navy.

Most electrical equipments were the responsibility of the Torpedo Branch, and thus on board, of the Torpedo Officer. This included the following:

- Electric generators, either steam or diesel driven, with the machine coupling being the point of demarcation of responsibility with the Engineering Department.

- All electric motors and controllers, with responsibility for the driven machine as above.

- Main power (220V DC) control and distribution.

- Low power (24V DC) generation and distribution.

- All fans and controllers for ventilation systems.

- All lighting systems and equipment.

- Internal communication and data distribution systems eg telephones.

- Main ships batteries (support to LP power system).

- Emergency lighting equipment and assoc. battery maintenance.

- All electrical navigation equipment, eg gyrocompasses, logs, plotters.

- Dequaussing systems

- Electrical anti -mining systems, eg LL sweeps, L noise makers.

- Torpedo and ASW AT weapon control and firing circuits.

- Assistance to Gunnery Department in FC and gun drive systems.

The rating structure involved STs(Seaman Torpedomen), LSTs, POTorpedomen and Chiefs. There was also a special rate, the LPLTO (Low Power Torpedo Operator) who worked primarily on ICFC systems. They were supported by EA's (Electrical Artificers) in small numbers from the PO to Chief level, who were skilled electro-mechanical technicians. During WW2, Electricians were brought in as a Reserve rate, parallel, but below EA's. Some EAs became Warrant and Commissioned Officers.

For external communications, the WT Branch with its own ratings and Officers, operated and maintained their own equipment (user/maintainers). Aside from WT Operators, they had ETs (Electronic Technicians) in support. Ashore there were (SB) Officers supporting in these areas, in equipment, shore installations and specialist training.

The same applied as Asdic (Sonar) and later Radar systems came in to the fleet.

OFFICER RESPONSIBILITY.

The Torpedo Officer was responsible for the majority of ships electrics, per above. The ASW Officer was responsible for the internals of his systems and equipment. The same applies for Communications and Radar.

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Except for a few T, C and AS Officers, most Technical Officers brought in after the commencement of WW2 were in the RCNVR or in more limited numbers, the RCNR. A number of technical officers were transferred from the RN, and indeed, the Torpedo School where all the T electrics were taught in Halifax had ex-RN Officers as principals and leading instructors. This latter situation prevailed up until the establishment of the Electrical School under the aegis of the new Electrical Branch at the end of the War. A new Torpedo School was built in Halifax in 1943 with the OIC being Cdr(T) John Spencer RN on loan, who was replaced in 1944 by Cdr(T) Jack MacAvity RCN (ex RCNVR). His immediate deputy was Electrical LCdr John Deane RCNVR, who later became a senior Officer in the L Branch.

Canadian Officers recruited for technical duties were brought in as (SB) Special Branch, with a light green designator stripe. As time wore on, Officers were brought in for many diverse duties not associated with electrics or electronics. These involved areas such as PR, CE, Legal, Education and many others – a bit of odds and sods.

Such Officers were usually recruited for work in specific areas where they had some measurable training and experience. Many in the technical group were from established Canadian industries, such as Westinghouse, CGE, Marconi to mention a few. Smaller number came from the merchant marine- ship's electrical officers and radio officers. The latter went immediately for the most part in to Asdic (Sonar) or Communications work. (I joined from being a Radio Officer in the MN as a S/Lt(SB) in 1941 and worked in the Halifax Dockyard in AS Base Maintenance, under two other SB's – Fred Clairmonte, a LCdr(SB) an L engineer from Montreal and Jack Marlow Lt(SB), another ex MN Radio Officer). I later moved to the Torpedo School in to electrical nav systems, as I had acquired some expertise in gyrocompasses in the MN.

At the end of WW2, many of the power L officers chose to go back to the industries from whence they came, and indeed it was helpful in later shipbuilding programs when the Presidents of both Westinghouse and CGE were ex WW2 Radar Officers and headed firms very intimately involved in the Canadian DE programmes.

There were pressures to consolidate those in electric/electronic work, so about 1942-43 those of us designated as (SB) became Electrical Officers.

ELECTRICAL BRANCH

Organizationally the pressures grew to rationalize the existence of all the varied forms of electrical/electronic technical activity, and with urging of many including Terry Burchell returning at the end of the war from the RN, Dr. Cullwick, from the Engineering Faculty of the University of Alberta was brought in to undertake the task, and became the first Electrical Engineer in Chief in NDHQ. The new Branch was formed to include all the then Electrical Officers (to wear a dark green stripe) and a new support rating structure was evolved, based on LMs(Electricians Mates), then to ETs (ex-EAs and senior

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Torpedomen. The electronic technicians from WT, Sonar and Radar all became RTs and some were eventually commissioned as L Officers.

This new Branch was not an operating echelon in the ship, except for power, vent and lighting systems, but a support department for maintenance. In the HQ area the new Branch became responsible for design, engineering and maintenance of all electric/electronic systems and equipment.

Dr. Cullwick came in to be the first electrical Engineer in Chief (EEC) in 1944 and stayed for about four years as an Electrical Captain, being succeeded in 1948. by Capt(L) Hugh Roger RCN (an ex-VR of 1937) who promoted to Cmdr(L) in the position in 1953. The Deputy EEC was Cdr(L) Terry Burchell RCN, ex radar officer with the RN, who went down to Halifax in 1947 as the second OIC of the new Electrical School. His Deputy there was Stu Paddon then LCdr(L), the senior instructor officer. The first OIC of this then new school was, for a short time, Cdr(L) Cliff Adams, brother of RAdm. Ken Adams.

After Terry Burchell, the next Deputy EEC was Cdr(L) Fred Gillespie RCN (ex RCNR from ships L officer CP Steamships). He became EEC in 1956 as a Cmdr(L).