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News

CANADIAN NAVAL TECHNICAL HISTORY ASSOCIATION

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CNTHA News is the unofficial newsletter of the Canadian Naval Technical History Association, published by the Director of History and Heritage, NDHQ Ottawa, K1A 0K2, telephone (613) 998-7045, fax 990-8579. Views expressed are those of the writers and do not necessarily reflect official DND opinion or policy. The editor reserves the right to edit or reject any editorial material.

In this life…

In mid-August many of us were saddened to learn of the death of long-time colleague, Don Nicholson. Beginning in the early post-war era, Don was involved in the specification and design of the propulsion systems for all Canadian warships. He was "Mr. Propulsion" to a great many of us.

As my boss for three years in the early '70s he taught me a great deal, including weighing the value of every word. If it isn't necessary or if it doesn't have value, take it out. It was a lesson that I was to pass on to many others (often to their chagrin).

Over the past few years Don had been busy putting together an authoritative history of propulsion systems in the Canadian navy. Unfortunately, he fell ill before he could complete his work. With the kind permission of his family we are hoping to pick up where he left off and complete his work.

Perhaps in his death, Don leaves us with one final lesson — in this life we are given only so much time to do our work. If you have been thinking of helping us out, why not start right now. Don, rest in peace.

Mike Saker

Don Nicholson

About the CNTHA

The Canadian Naval Technical History Association is a volunteer organization working in support of the Directorate of History and Heritage (DHH) effort to preserve our country's naval technical history. Interested persons may become members of the CNTHA by contacting DHH.

A prime purpose of the CNTHA is to make its information available to researchers and casual readers alike. So how can you get to read some of it? For the moment there is only one copy of the Collection, situated at the Directorate of History and Heritage located at 2429 Holly Lane (near the intersection of Heron and Walkley Roads) in Ottawa. DHH is open to the public every Tuesday and Wednesday 8:30-4:30. Staff is on hand to retrieve the information you request and to help in any way. Photocopy facilities are available on a self-serve basis. Access to the building requires a visitor's pass, easily obtained from the commissionaire at the front door. Copies of the index to the Collection may be obtained by writing to DHH.

HMCS *Labrador*: Starboard Motor Room Flooding

Recounted by Cdr D.C. Waring, RCN (Ret.), Victoria, B.C.

Editor's Note

The Canadian icebreaker HMCS *Labrador* was built in the early 1950s in recognition of the growing strategic importance of Canada's Arctic region, and with a view to asserting sovereignty there. Commissioned on July 8, 1954 at Sorel, *Labrador* sailed that summer, without any work-ups, on the first of four voyages she would make to the Arctic as a naval vessel. On that initial voyage to conduct scientific investigations and carry out resupply missions, she became the first warship to negotiate the Northwest Passage and, by returning to Halifax via the Panama Canal, the first to circumnavigate North America.

Labrador had a diesel-electric propulsion system in which the shafts were driven by electric motors supplied, in turn, by diesel generators. She was the only ship in the RCN where personnel of the electrical branch had an operator's role in the traditional domain of the marine engineer. The author of the (condensed and edited) tale that follows is retired RCN Cdr D.C. Waring, who served 18 months as *Labrador*'s first electrical officer. The incident he describes occurred at the ship's last port of call prior to returning to Halifax on her history-making maiden voyage around North America in 1954.

Leaving the Panama Canal about mid-November 1954, *Labrador* sailed across the Caribbean to the island of Grenada and anchored off the port of St. George's. On anchoring, the ship service distribution was set with the forward and after switchboards joined by the bus tie, with a single generator in no.1 generator room supplying power. Early the next morning we awoke to absolute stillness — a situation most sailors find can act as a perfect alarm clock after a period at sea amidst the ever-present noise in a ship. Power was out. Lights and fans were off. I quickly made way to no.1 generator room to learn what was happening. My immediate reaction was that the diesel had lost its fuel source, until I learned that an overload had occurred and the unit had shut down.

By restarting the diesel and closing the generator circuit breaker, normal habitability seemed to be restored. Lights came on and fans began circulating air about the ship, but we still hadn't solved what had really happened. Personnel making rounds of the compartments discovered flooding in the lower level of the starboard motor-room. The local power distribution panel sited on the forward bulkhead of the compartment was partly immersed. As the space was still in darkness with the circuit breaker tripped on the after switchboard, we brought in emergency supply for lighting and emergency pumps. The source of the seawater flooding was found to be a broken plug in one of the booster pump lines. This was sealed off and pumping of the compartment began.

The glass inspection ports were removed from the main motor above the watchkeepers' platform. With the top row of brushes removed it was possible for a thin person to pass beyond the brush holder bar, down around the commutator, and sight the level of flooding within the motor frame. Because the motor angled downward aft, the bottom main pole and adjacent interpoles were well immersed. The armature back end also appeared to get some water.

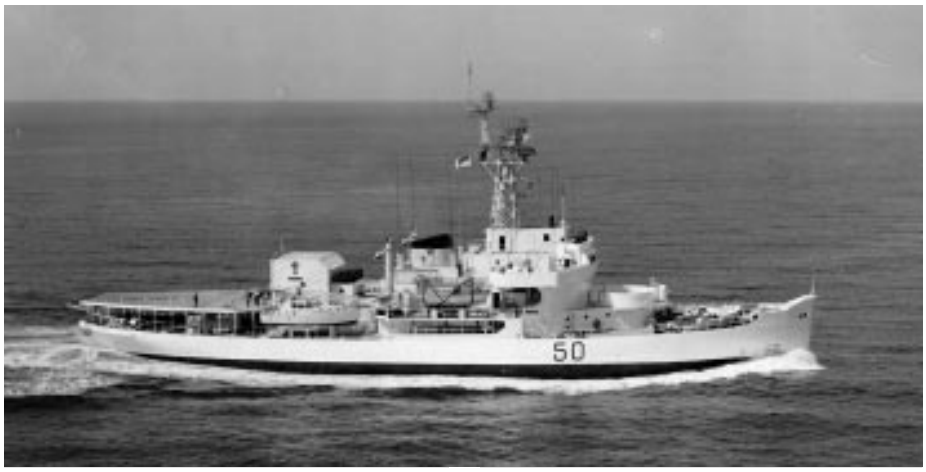
Once the salt water was removed from the compartment, the interior flooded areas of the motor were washed down with fresh water to remove as much salt contamination as possible. Insulation readings read zero. The service power panel sited on the forward bulkhead of the motor-room lower level had also been flooded, and a portion of the interior bus from which the circuit breakers for auxiliaries and lighting drew power was melted and misshapen due to the surge of power on short circuit. Now that it was possible to make some judgment as to what had happened, departmental officers conferred with the captain who then directed that the ship proceed as quickly as possible to Halifax using the port motor only, allowing the starboard shaft and propeller to trail.

Temporary repairs at the distribution panel made it possible for all necessary services to draw supply. The main motor brush gear was replaced, the motor bearing lubricating pump was activated, and after we had been under way awhile, external heated air was piped into the motor for most of the journey back to Halifax. Continuous watch was maintained.

Safely back in Halifax, the overriding consideration was to ensure the ship had completely reliable propulsion plants for proceeding into Arctic waters in the future. The starboard motor was repaired by removing the lower main pole and adjacent interpoles aft through the freshwater tank and up through various compartments with minor disruption. Canadian Westinghouse (Moncton) carried out the necessary detachment and reconnection of the field-winding interconnections, while dockyard Halifax riggers skillfully removed and replaced the long, heavy poles by working in the gap between the poles and the armature.

Prior to undertaking the DEW Line resupply role in Foxe Basin in 1955, *Labrador* proceeded to the measured mile course off the coast of Maine for propulsion and speed trials. The starboard motor performed beautifully.

[Further Reading: *The Ice Was All Between*, T.A. Irvine, Longmans, Green and Company, Toronto 1959.]



HMCS *Labrador*

Canadian VDS in the RN

Everyone knows that the RCN was the first of the Western navies to get a production VDS to sea — or was it? It seems that the Royal Navy adopted it more rapidly than the RCN. After comparative trials of the Canadian CAST-1X VDS and the RN's own Type 194 VDS in August 1958, the Board of Admiralty decided in February 1959 to abandon its own set. It decided to fit Canadian equipment in eight of its new general-purpose (*Leander*-class) frigates.

The Canadian decision to fit VDS in the *St. Laurent* DDH conversions was delayed while the details of conversion were worked out. So HMS *Leander* commissioned in March 1963 with Canadian-built VDS, renamed Sonar Type 199. The first Canadian ship to get production AN/SQS-504 equipment was HMCS *Assiniboine*, commissioned after conversion to a DDH three months later. (Of course, a preproduction 504 had been fitted in HMCS *Crescent* in 1960.)

Canadian VDS also found its way (as Type 199) to Australia and India. The sonar was retired from service in the RN in the mid-1980s. — ***Hal Smith***

The Collection

Our Collection now stands at 346 Items.

Our latest offering is a group of seven documents, largely letters, written between 1952 and 1969 donated by Lieutenant Thomas A. Parkinsin, a retired engineer officer. These items cover various topics generally related to John Inglis Co., in the building of engines for the DDE 205/257/261-class vessels. In particular, a copy of the contract through which the Queen purchased land, plant and equipment from John Inglis in 1952 is included.

According to Lieutenant Parkinsin, these were the only remaining documents from the naval overseer, Toronto area office. At the time the office was closed there were 24 filing cabinets full of contracts and supporting documentation.

If anyone else can produce any musty papers please do so and receive our gratitude! Contributions from a single paragraph to a book can be sent to me directly:

by mail: 673 Farmington Ave., Ottawa, Ont., K1V 7H4
by fax: (613) 738-3894
by E-mail as436@freenet.carleton .ca

Phil Munro

Information Exchange Groups

Readers with e-mail access may find two information exchange groups (IEG) of some interest. The Marine History IEG, operated by the Marine Museum of the Great Lakes, Kingston, Ontario, has about 480 subscribers all over the world, and covers every aspect of marine history. The standard of contribution is usually high. It is very active and you have to sift through the 50 or so postings a day to extract whatever is of interest. There is a reasonable amount of Canadian content. A specific question sent to the list will usually elicit good information, often from unexpected sources. To subscribe, send an e-mail to listserv@post.queensu.ca (without subject line or signature) and text 'SUBSCRIBE MARHST-L' (without the quotes).

The RCN History IEG is a new list with a specific emphasis on Canadian naval history, moderated by Dave Shirlaw of Vancouver. It currently has around 50 subscribers. Since it is new, its standards are yet to be established. To subscribe, send an empty message (no subject, no signature, no text) to rcn-history-subscribe@makelist.com.

IEGs can be a great time-waster if you let them become so. The 'delete' key is your best friend. The best way of using them is to ask a fairly specific question about something that interests you and then see what happens. — ***Hal Smith***

Letters

(To Jim Dean)

I admire you for taking on this history project, and wish I could help more. Regarding submarines, I did serve in *Grilse* from 1963 to 1965. The first engineer was Rusty MacKay, who lives in Victoria. Julie Ferguson (the wife of James Ferguson, who works for Jim McFarlane at International Submarine Engineering in Vancouver) wrote a book on Canadian submarines [*Through A Canadian Periscope*, Dundurn Press, 1995], and I turned all of my *Grilse* papers over to her. I suggest you contact Bill Sargent in Victoria as he ran the first-ever submarine refit — *Grilse* in 1963/64. It was a major accomplishment, and introduced us to high-level welding for submarine pressure hulls. We worked closely with the Americans on this and did an outstanding job.

Regarding the O-boats, I was the engineer of *Onondaga* and stood by her in Chatham. The overseeing crew included Al Kastner, Phil Muir, Bob Mitchell (supply) and Jim McFarlane (naval architect). The team was led by Cdr Ewen Galbraith (deceased). Again, Julie Ferguson's book gives a great deal of information on this subject. I could tell you a few stories when we meet, and Jim McFarlane would be able to give you fascinating tales about the Canadian design changes to the second and third O-boats, particularly the introduction of a cafeteria, something the Brits found outrageous! When I went to the drawing office to get the weights and their distribution for the first trim dive I was handed a huge sheet, written in pencil, with everything in long tons, hundredweights and stones! Chatham Dockyard is now a museum — a reminder of my age.

Keep in touch. — **Ed Murray**

[*Note: We understand that Bill Sargent is now in Windsor, Nova Scotia. — Ed.*]

VAdm Lane-Poole's Maxims for Naval R&D

Sir Charles Goodeve, the man who masterminded the first ahead-throwing anti-submarine weapon (Hedgehog),was born and brought up in Canada, settled in England in 1928, transferred from the RCNVR, and began an unsuccessful campaign to have the Admiralty recruit other scientists and engineers for the RNVR. Deeply involved in degaussing efforts until May 1940, he got himself transferred (his ability to bypass authority became legendary and originated the term "to do a Goodeve") to what would become the unorthodox and highly successful Directorate of Miscellaneous Weapons.

Among his papers is an account by VAdm Lane-Poole, Superintendent of Demagnetization (SDG), of degaussing efforts during the Second World War. It includes the following five rules for scientific development in the navy, very much in accord with Goodeve's own methods and likely equally pertinent today.

Dr. Alec Douglas

In December 1939 SDG was in Portsmouth at HMS *Vernon*, with the Superintendent of Mine Development (SMD). Since speed was of the essence, he moved to the Admiralty to be near the Naval Staff, leaving the range section at Portsmouth for liaison with *Vernon* and SMD.

Maxim No.1. If your business has considerable operational aspect, direction must be in contact with naval staff.

In May 1940, because *Vernon* and SMD could not or would not co-operate, SDG got the navy to lease Butlin's Fun Fair to accommodate a combined *Vernon* (experimental establishment portion) and SMD.

Maxim No.2. Research and experimental work to build up naval design (such as this) must be carried out by a team of sailors and highbrows working together, direction coming from the former.

In September 1940 the combined *Vernon* and SMD degaussing establishment migrated to Helensburgh, on the Clyde, in time to avoid the bombs which demolished their fun fair.

Maxim No.3. Avoid target areas when choosing a site for an experimental establishment.

In October 1940 there were more delays because direction was under a separate roof (The Admiralty) from development and application (Bath).

Maxim No.4. If delay is not to occur in getting the stuff on the drawing board, the man responsible for actual design must have all the necessary data at the shortest possible notice. Consequently those in possession of this data must be easily accessible.

In September 1941 the geographical triangle (The Admiralty, Bath and *Vernon*), and the lack of accountability of scientists and technicians to SDG began to hinder progress. On Nov. 25, 1942, SDG won approval to eliminate SMD and assume responsibility for direction of experiment, research, application and design of degaussing.

"The superabundant high brow staff was dispersed and the practical residue brought down to Bath and housed under the same roof as the Naval Officers responsible to me for the direction of design. Since then all R&D [is] under immediate direction of my deputy at Bath in close proximity to DEM, DMC, Director of Dockyards, etc. DELAYS HAVE NOW CEASED."

Maxim No.5. In any organisation the appropriate man to direct development is the man responsible for its administration.

We'd love to hear from you…

If you have information, documents or questions you'd like to pass along to the Canadian Naval Technical History Association, please contact the Directorate of History and Heritage, NDHQ, MGen George R. Pearkes Bldg., Ottawa, Canada K1A 0K2 Tel.: (613) 998-7045/Fax: (613) 990-8579