

# A Farewell Message from the Chief of the Naval Staff

THE YEAR 1955 has been one of continued development of strength and efficiency in the Royal Canadian Navy, highlighted by the commissioning of the first *St. Laurent* Class destroyer escort and the advent of jet aircraft for our Navy.

My role as Chief of Naval Staff in this progress would have been quite impossible without the unfailing loyalty of all officers, men and women.

There may be difficult times ahead for the Navy, but I write this last message for the pages of *The Crowsnest* with the inward assurance that all obstacles will be overcome by you who carry on.

My best wishes for 1956 and the future years.

Vice-Admiral, RCN, Chief of the Naval Staff

## \*CROWSNEST

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The Cover—Temporarily icebound, but still presenting a picture of sturdy self-reliance, the Labrador posed for this "sitting duck" portrait during last summer's DEW Line and survey operations in Canada's far northern waters. While she sat there divers were busily placing the charges that opened a channel to clear water. (LAB-1017)

#### Looking Both Ways

In the manner of the god Janus, who gave his name to the first month of the year, looking both ways simultaneously at this season is accepted as quite the thing.

this season is accepted as quite the thing.

Looking backward, *The Crowsnest* is grateful for the contributions of articles, photographs, drawings, personal items and recollections that have helped the magazine to present the Royal Canadian Navy as an active, developing organism of which its members and their fellow-Canadians can be proud.

Not all the contributions were literary masterpieces, nor was there any desire on the part of the editors that they should be. The important thing was that someone was interested enough in the activities of his ship and her personnel to sit down and write out the facts for presentation to the limited portion of the world served by the magazine. Others, more skilled in the art of writing, turned out neat packages of fact or humour.

On the painful side is the thought that many a good story of life in the service went unwritten because someone lacked the time, the energy or the confidence to assemble the facts.

Looking forward, *The Crowsnest* is hopeful that it will continue to hear from its old friends and that their thrice-blessed circle will be joined by new contributors—particularly, we might add, from the lower deck, the sturdy foundation of the naval service.—*The Editors*.

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One of the strangest tasks to fall to the lot of the Labrador during her 1955 Arctic operations was the towing and "mothering" of a damaged USAF Albatross amphibian aircraft until a USN dock landing ship arrived and took it on board. (LAB-1318)

## Farewell Visits Paid by CNS

Vice-Admiral E. R. Mainguy, who begins retirement leave January 16 after serving as Chief of the Naval Staff since December 1951 paid farewell visits to the Pacific and Atlantic Commands of the Royal Canadian Navy in December.

Admiral Mainguy visited the Pacific Command from December 8 to 13 and the Atlantic Command from the 15th to 18th. At both places he toured shore establishments and called on the ships in port.

#### 'Copter Performs Thrilling Rescue

The day of the big game had arrived and football fans across Canada had their radios tuned for the latest word on the clash of the padded giants for the Grey Cup at Vancouver on November 26.

As a result, they heard the closing minutes of a more deadly game on the Atlantic seaboard in which the Navy played the North Atlantic for men's lives and won 21-0.

The beneficiaries of an RCN helicopter's victory over wind and sea were 21 crew members of the Liberian freighter Kismet II, which had been driven onto the rocks at the base of a 1,000-foot sheer cliff near Cape St. Lawrence, Cape Breton Island.

Fierce winds, which had prevented earlier rescue, had abated somewhat by November 26, making it possible for a Sikorsky helicopter to fly in low along the cliff, land on the freighter's after deck and remove the crew in four

dangerous flights. The ship's dog and cat were also saved.

Two of the rescue trips were made by Lt.-Cdr. John H. Beeman; the others by co-pilot Lt.-Cdr. Roger Fink. Crew members were PO Laurence W. Vipond and AB Paul A. Smith.

#### Princess Royal Opens Cadet Block

During her visit to Victoria, Her Royal Highness, the Princess Royal visited the Canadian Services College, Royal Roads, where she opened the Nixon Cadet Block on October 17.

Speaking at the opening of the new cadet block, Rear-Admiral H. F. Pullen,



Her Royal Highness, the Princess Royal, cuts the ribbon at the official opening of the Nixon Cadet Block at Royal Roads in October. At left is Captain J. A. Charles, commandant of the college. (E-33386)

Flag Officer Pacific Coast, said it was named after an officer who made a great contribution to the early history of the RCN, Cdr. E. A. E. Nixon. He was in charge of the Royal Naval College of Canada from its foundation in 1910 until it was closed in 1922.

"The example he set was never forgotten and it is true to say that the standards of loyalty, zeal and devotion to duty that we have in the service today are the legacy left us by this famous Canadian naval officer," said Admiral Pullen.

#### Three Frigates Lent to Norway

Hon. Ralph Campney, Minister of National Defence, announced in November that the Royal Canadian Navy will lend three Prestonian-class frigates to Norway. The ships are the frigates Penetang, Prestonian and Toronto.

The plan is to turn them over to the Royal Norwegian Navy one at a time between January and March. All three ships will be refitted before being transferred to Norwegian ships' companies in Halifax.

#### All Ships Home For Christmas

For the first time since the outbreak of the Korean War in 1950, all ships of the fleet spent Christmas at home this year.

During each of the five previous Christmases at least three destroyer escorts and 700 officers and men spent the Yuletide "somewhere" in the Far East.

By December 18, with the arrival at Halifax of HMC Ships Algonquin and

St. Laurent and HMS Astute from Bermuda, all ships of the fleet had returned to Canadian waters. The Algonquin and Astute had been assisting the St. Laurent during a portion of the latter's extensive working up exercises.

The Magnificent, Haida, Huron and Micmac returned to Halifax December 6, after an absence of three months, during which time they had participated in NATO exercises New Broom IV and Sea Enterprise and later visited ports in the United Kingdom, The Netherlands, France, Spain and Italy.

The Quebec. completed a fall training cruise to the Caribbean on December 10. During her month-long trip she visited Willemstad, Curaçao; Montego Bay, Jamaica; Great Stirrup Cay in the Bahamas and New Orleans.

The Quebec's band was a big hit at Willemstad, and just before the ship sailed her musicians played a 45-minute program over the city's radio station. While at New Orleans, the ship was honoured by the city's horse-racing enthusiasts, who named a six-furlong event the "HMCS Quebec Purse". The Quebec's commanding officer, Captain D. W. Piers, presented the floral tribute to the winning jockey.

The Labrador, after five months of battling the Arctic elements, returned to Halifax late in November in time to be greeted by the advent of an early Nova Scotian winter. The ship's return home was hastened when PO B. W. Robinson suffered carbon tetrachloride poisoning. The ship quickly wound up survey operations in the Strait of Belle Isle and landed the patient at Stephenville, Nfld., from where he was flown to RCNH. The ship then proceeded to Halifax.

The destroyer escort *Nootka* and HM Submarine *Ambush* returned from Bermuda December 9, after having carried out TAS and ASW exercises with aircraft of VS 881 and the RCAF. The Avenger squadron, which had been operating from the USAF base at Kindley Field, returned to Shearwater Dec. 12.

HMCS Sault Ste. Marie was due at Halifax December 16, from Esquimalt to join the 11th Escort Squadron.

On the West Coast, all ships operated close to home during December. The Digby and Brockville carried out a brief reserve training cruise to Seattle December 9-11. The destroyer escort Crescent, which joined the fleet late in October after extensive modernization, continued trials and working up exercises in the Esquimalt area.

The Sioux, which returned from the Far East in September, completed refitting in mid-December and began trials.

#### Careless Smokers Start 60 Fires

Careless smokers were responsible for 60 fire calls in ships and shore establishments of the Royal Canadian Navy during the first nine months of 1954, with both naval and civilian personnel contributing to this unenviable figure.

Fortunately fire losses from smokers' carelessness (\$572) were relatively small, but a notice-board memorandum on the subject from headquarters does not indicate that this should be a cause for self-congratulation on the part of the smokers.

Another avoidable source of nuisance and expense during the period is represented by the 89 false alarms turned in wilfully or in error. Property losses totalled \$16,489 up to September 30, which represented a reduction of \$27,227 from the loss during the corresponding period in 1954.

#### Cdr. 'Tony' Law Goes to Labrador

Cdr. C. Anthony Law, has been appointed executive officer of the *Lab-rador*.

He succeeds Cdr. John McW. Leeming, who assumed temporary command of the *Labrador* on October 28 when Captain O. C. S. Robertson was evacuated by air to Montreal for hospital treatment.

Cdr. Law has been officer-in-charge of the Junior Officers' Technical and Leadership Course at *Stadacona* since July, 1953.

#### \$100 Prize Essay Contest

## "Why The Navy Is Worthwhile"

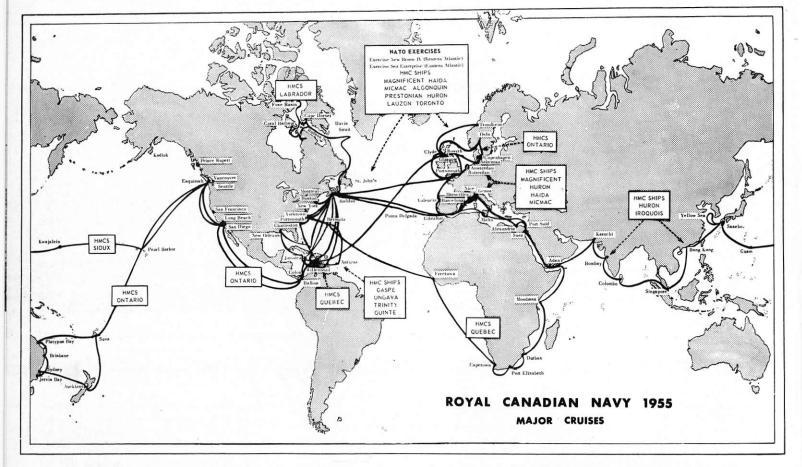
A N ESSAY contest open to personnel of the Navy is being conducted by Canadian Shipping and Marine Engineering News, the winner to receive a \$100 prize and an engraved plaque, which will serve as a permanent memento.

"Why I Believe in the Navy" is the subject of this year's contest and the winning essay will appear in the March 1956 issue of Canadian Shipping and Marine Engineering News, the fifth special annual issue devoted to the Royal Canadian Navy.

The following are the conditions of the contest:

- The contest is open to all naval personnel, regardless of rank, with the exception of officers and men appointed or drafted for naval information duties.
- 2. Essays must be original, must be written personally by the contestant, must not have been previously published and must present a sincere reflection of the contestant's beliefs and attitudes.
- 3. Essays should be clearly legible, written on one side of the paper only and be from 1,500 to 2,000 words in length. If type-written, they should be double-spaced.
- 4. Contestants MUST adopt a penname to appear on the first page of the submitted manuscript. Contestant's real name should be placed in a sealed envelope securely at-

- tached to manuscript by pin or stapler. Material otherwise submitted will be automatically disqualified.
- Entries should be addressed to the Director of Naval Information, Naval Headquarters, Ottawa, and envelopes clearly marked "Contest Entry".
- 6. All entries must be received at Naval Headquarters by February 15, 1956.
- Only one entry from each contestant will be considered.
- 8. The winning entry will be awarded a prize of \$100 and will be published in the March 1956 issue of Canadian Shipping and Marine Engineering News. A plaque will be presented to the winner by the editor. The editor reserves the right to publish any other entry in any subsequent issue of the publication during the ensuing six months, for which regular space rates will be paid.
- A distinguished Board of Judges will be appointed by the magazine sponsoring the contest, names to be announced later.
- 10. Decision of the judges shall be final.
- 11. Each contestant, in submitting his entry, automatically accepts the above rules and conditions.



## A YEAR OF OUTSTANDING DEVELOPMENT

#### RCN Attains New Heights in Strength, Stature in 1955

THE YEAR 1955 was one of progress and development unparalleled in the peacetime history of the Royal Canadian Navy.

The addition of the ultra-modern anti-submarine escort vessel St. Laurent; the Arctic operations of the Labrador; the adoption of jet-powered naval aircraft and the organization of the fleet into training and operational squadrons combined with significant advances in numerous other fields to mark 1955 as a year in which the RCN made important gains in strength and stature.

The size of the fleet increased to 61 active units, while the number of personnel in the regular force rose to more than 19,000. Both are record peacetime figures. The ships include one aircraft carrier, two cruisers, 12 destroyer escorts, one Arctic patrol vessel, ten frigates, seven coastal escorts, eight coastal minesweepers, one repair ship and 19 smaller craft.

Most noteworthy of the new ships added to the fleet was the *St. Laurent*. Canadian designed and built, the deadly 366-foot submarine killer is the first to be completed of 14 vessels of her class,

described as the most modern of their type in the world.

Of the remaining 13 ships of the St. Laurent class, five will commission this year, five in 1957 and three in 1958.

Another major addition was the newly-modernized destroyer escort, HMCS Crescent, completely rebuilt and re-equipped with the latest submarine detection devices and armament. The conversion was done entirely in HMC Dockyard, Esquimalt, and was the largest single project ever undertaken by a Canadian naval dockyard.

Three modernized frigates and two coastal escorts, together with a number of smaller craft, also joined the fleet in 1955.

In reserve, the RCN has another 54 ships of various classes, including nine on loan to other government departments. Auxiliary vessels and small craft manned by civilian personnel number more than 100.

O PERATIONAL commitments, training cruises and sea exercises took ships of the RCN to many parts of the world.

HMCS Labrador, the navy's Arctic patrol vessel, added further to the

reputation she earned in 1954, her first year of northern operations, when she took a prominent part in a joint Canada-U.S. project unique in martitime history. The RCN ice-breaker's principal assignment during this summer's Arctic operations was to act as senior ship of a task group responsible for the delivery of thousands of tons of vital supplies to Distant Early Warning (DEW) Line sites in the eastern Arctic. The Labrador, in addition, continued with the work of surveying and charting the little-known waters of Canada's north.

The increased number of ships in commission made possible a material improvement in the type of sea training available. Instead of operating singly or in twos, RCN vessels can now be formed into squadrons for the all-important group training necessary to make them fully efficient fighting units. Among the squadrons formed during the year were the Eleventh and Twelfth Canadian Escort Squadrons and the First Canadian Destroyer Squadron. The Twelfth Escort Squadron is based at Esquimalt and the others operate from Halifax.

Also based at Halifax is the Sixth Submarine Squadron of the Royal Navy. Composed of three submarines, the squadron was lent to Canada last year to enable the RCN to expand its program of practical anti-submarine sea training for personnel, ships and aircraft. The first RCN submariners had completed their training in the United Kingdom and are serving with the squadron. As training progresses, it is anticipated that half the complement of the squadron will be RCN personnel.

RAINING CRUISES carried out by RCN ships in 1955 embraced waters familiar to Canadian seamen and also some completely new. In the latter category was the cruise early in the year of HMCS Quebec around the continent of Africa. The destroyer escorts Huron and Iroquois, returning to Halifax from duty in Korean waters, visited ports in Ceylon, India and Pakistan in February. It was the first visit by Canadian ships to India and Pakistan. The cruiser Ontario made two major cruises during the year with cadets of HMCS Venture, the officer training establishment at Esquimalt, embarked. Her first voyage took her to Australia and New Zealand, while ports in the United Kingdom and Europe saw the ship during her second cruise.

The aircraft carrier Magnificent also logged many thousands of miles during the year, winding up her training program with participation in two NATO exercises and a cruise to European waters and the Mediterranean. The destroyer escorts Haida, Huron and Micmac accompanied the Magnificent on this voyage, during which Holland, Spain, Italy and France were visited.

The waters of Bermuda and Southern California remained popular areas for ships of the East and West Coast fleets seeking consistently good weather for training exercises and manœuvres.

Eight Canadian warships took part in two NATO exercises in the Atlantic during the year.

In the Pacific Command, the frigate Ste. Therese steamed for 7,160 miles back and forth across the North Pacific as a participant in the joint synoptic oceanographic survey operation "NOR-PAC". United States and Japanese ships participated in large numbers in this survey of ocean currents and salinity and temperature of ocean waters.

THE LARGEST-SCALE peacetime fleet exercises on the West Coast in the history of the RCN took to sea in October the entire operational Pacific fleet. They included air-sea co-opera-



On September 24, 1955, HMCS Sioux came home to Esquimalt. She was one of the first Canadian warships to serve in the Korean war theatre, the last to serve on patrol there after hostilities had ended. (E-33060)

tion exercises with RCAF aircraft from Comox and Vancouver and RCN aircraft from Patricia Bay, as well as convoy, gunnery, night encounter, atomic defence, air defence, torpedo and minesweeping exercises.

In November ships of the command spent nearly two weeks in exercises with naval and Marine units of the United States Pacific Fleet, which were climaxed by an amphibious landing at Camp Pendleton, Oregon. The exercise area extended along the western seaboard as far south as Long Beach and San Diego, California.

Before sailing on these major exercises, RCN warships and landing craft took part in a spectacular combined operations assault on Jericho Beach, Vancouver.

Highlights of the 1955 activities of naval aviation include the formation of an Airborne Early Warning flight of four especially equipped Avenger aircraft; the establishment of an experimental helicopter anti-submarine unit and the introduction of jet aircraft into the RCN. The first jet aircraft to be put into service by the navy were T-33s and these were formed into a training flight. Late in the year the first of the F2H-3 Banshee all-weather jet fighters were received.

Fighter and anti-submarine aircraft and the AEW flight were embarked in the *Magnificent* for the two NATO exercises. Fifty naval aircraft from HMCS Shearwater, the RCN air sta-

tion at Dartmouth, N.S., took part in the Canadian Army's Exercise "Rising Star", one of the most ambitious training projects ever undertaken by Canadian forces.

An anti-submarine squadron was based for a time in Bermuda, where it took part with surface ships and undersea craft in anti-submarine training practices.

For the first time pilots of a reserve squadron qualified or re-qualified in carrier landings when members of Toronto's VC 920 Squadron were embarked in the *Magnificent* in August.

ELICOPTERS of the RCN were engaged in several mercy missions and rescue trips during the year, in addition to their normal duties on board the Labrador and Magnificent and at Shearwater. One rescue mission brought the award of Member of the Order of the British Empire to a helicopter pilot who flew from Dartmouth to St. Paul Island, under adverse weather conditions to bring back an injured lighthouse keeper. Another daring rescue by naval helicopter pilots involved the removal of the entire 21member crew of the Liberian freighter Kismet II, which ran aground off the northern tip of Cape Breton Island late in November. High winds and overhanging cliffs made the rescue extremely hazardous.

Approximately 7,000 officers and men will have taken general, specialized and technical courses in RCN training schools throughout the year and a further 700 will have completed advanced courses in the United Kingdom and the United States and in Canadian universities.

Basic and advanced training for officers and men of the RCN (Reserve) was provided in ships and establishments on the coasts and at the Great Lakes Training Centre, Hamilton, Ont.

On the lakes, a 15-ship fleet, the largest ever assembled in Canadian inland waters, provided training for 1,400 naval reserves on 20 separate cruises. Ports visited in the course of the summer included Toronto, Sarnia, Kingston and Porth Arthur in Canada, and Chicago, Detroit, Cleveland, Buffalo and Rochester in the United States.

In addition to the Great Lakes program, hundreds of other reserves took annual training in ships of the East and West Coast fleets and in training schools and centres ashore.

THE BUILDING of new ships and the modernization of wartime vessels continued at a brisk pace.

Structural work on the largest unit under construction for the RCN, the aircraft carrier *Bonaventure*, is progressing rapidly and fitting out is well advanced.

The *Bonaventure*, being built at Belfast, Northern Ireland, is expected to be commissioned before the end of next year.

Modernization of 16 frigates has been completed and five others are undergoing conversion. The coastal escort modernization program has been completed and the construction of Bay Class minesweepers is in its final stages. Of the 14 vessels of this class already built, six have been turned over to France under the NATO mutual aid program. Six replacement minesweepers have been ordered. Smaller vessels under construction for the navy include patrol craft, diving vessels, ocean tugs, passenger craft, lighters and barges.

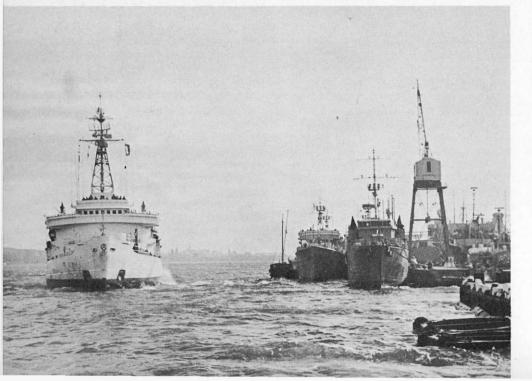
Ashore, the expansion of naval facilities is progressing well. A new \$5 million naval magazine at Rocky Point, B.C., was officially opened by Defence Minister Ralph Campney early in the summer and a naval armament depot was established at Longueuil, Que., in September. Work on the Naval Supply Depot at Ville La Salle, Que., is nearing completion, as is the construction of several large storage buildings in various parts of the country.

The operation of Padloping Island weather station, for two years a responsibility of the RCN, was turned over in early autumn to the Department of Transport.

A reduction from three to one in the number of ships maintained by the RCN in the Far East was made in January and in September the remaining destroyer, HMCS Sioux, was withdrawn and returned to base at Esquimalt.

In keeping with the Canadian Government policy of giving strong support to the North Atlantic Treaty Organization, it was announced in November that three RCN frigates of the Prestonian class would be loaned to the Norwegian Navy. The ships are the modernized anti-submarine frigates,

Polar bear flag flying from a signal halyard, the staunch ship Labrador approaches Jetty 2 in HMC Dockyard after nearly half a year of accomplishment in the Arctic. (HS-39420)



Prestonian, Penetang and Toronto. The transfer is expected to take place early in 1956.

Also announced during the year was the inclusion of Wrens in the regular force. Complement was set up for 35 officers and 365 Wrens.

#### No Chance for Second Mistake

Project 572 was no fleet exercise where lessons can be learned and mistakes rectified by analysis. A serious mistake would be disastrous.

Without exception every man in the Labrador "pulled his weight"—in the engine and motor rooms where watches were never broken, in the command position where the echo sounder had a peculiar fascination, in the maintenance parties where equipment, especially radar gear, had to be kept at 100 per cent efficiency.

The hydrographic parties spend long cold hours on the beaches, erecting beacons, and in the sounding boats wielding sextants. The helicopters did the unbelievable and were always ready for more schemes to test their ingenuity.

The supply branch was regularly criticized for the food it served, but without much cause. The food was of a high standard—albeit variety was rather lacking after nearly six months at sea.

The "Met" office was constantly advised to procure a new crystal ball, but its forecasts were an integral part of the planning of day to day activities in an area where meteorological data was otherwise virtually unobtainable.

The "madmen" (clearance divers) spent hours under water looking for obstructions at the beaches and were prepared to blow anything, anywhere on the slightest provocation.

The Foundation Company did all in its power to ensure prompt delivery of the *Labrador's* mail and it was always extremely heartening to hear an incoming aircraft call and report that she had mail on board for us.

There were few opportunities to land recreation parties and many a time a party had to be cancelled owing to changing weather and ice conditions.

#### HALIFAX CURLERS BEGIN SEASON

The RCN Curling Club began its third active season at the Mayflower Curling Club in Halifax December 1.

The still-growing group is now affiliated with the Royal Caledonia Curling Club, Nova Scotia branch, and intends to do battle with other provincial rinks in this season's Macdonald Briar playoffs.

Navy curlers are active Thursday afternoons throughout the winter with two rounds each time on the lanes.

The Halifax Navy club president is Instr.-Cdr. J. D. Armstrong.

## New Year Sees Change in Top Command

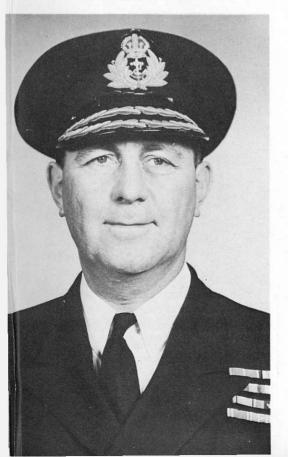
#### Admiral Mainguy Succeeded Jan. 16 by Admiral DeWolf

N JANUARY 16, 1956, Vice-Admiral E. R. Mainguy will relinquish the appointment of Chief of the Naval Staff and will be succeeded on that date by Vice-Admiral H. G. DeWolf, whose promotion to that rank will be co-incident with his assuming the appointment.

Admiral DeWolf thus becomes the eighth officer to head the Royal Canadian Navy since the service was established in 1910. His predecessors were the late Admiral Sir Charles Kingsmill, RN, 1910-1920; Rear-Admiral Walter Hose, RCN (Ret'd), of Windsor, Ont., who, now entering his 87th year, still takes an active interest in the RCN, 1920-1934; the late Admiral Percy W. Nelles, 1934-1944; the late Vice-Admiral George C. Jones, 1944-1946; Vice-Admiral Howard S. Reid, of Victoria, 1946-1947; Vice-Admiral Harold T. W. Grant, of Ottawa, 1947-1951, and Vice-Admiral Mainguy, 1951-1956.

An unusual feature of Admiral Mainguy's retirement and Admiral DeWolf's appointment as his successor is that they are the only two naval officers directly involved in the change, but a chain-reaction was touched off in the Canadian Army. This was because it was the Army's turn to hold the post of

VICE-ADMIRAL E. R. MAINGUY



Chairman of the Canadian Joint Staff, Washington, D.C., vacated by Admiral DeWolf. Major-General H. A. Sparling, Vice-Chief of the General Staff, was to succeed Rear-Admiral DeWolf on January 2.

Following are brief sketches of the careers of the officer who has been at the helm of the Royal Canadian Navy for the past four years and his successor:

#### VICE-ADMIRAL E. R. MAINGUY OBE, CD, RCN

VICE-ADMIRAL Edmond Rollo Mainguy was born May 11, 1901, at Chemainus, B.C. His naval career dates from his entry into the Royal Naval College of Canada at Halifax in 1915.

He was a witness of the munitions ship explosion which devastated a large portion of Halifax in 1917 and was among the hundreds injured by flying glass.

On his graduation in 1918, he was appointed midshipman and served on board HMS Canada, a battleship veteran of Jutland, during the closing months of the First World War. On his return to Canada in 1921, he served in the cruiser HMCS Aurora and the destroyer HMCS Patrician. The same year he was promoted to lieutenant.

In 1923 he began a specialized course in signals with the Royal Navy and on its completion was appointed Signals Officer at HMCS *Naden*, the naval establishment at Esquimalt. His next appointment, in 1926, was as Supervising Officer of Western Divisions of the RCNVR, with headquarters in Ottawa.

In 1928, Admiral Mainguy went to the Royal Navy for additional service and training. In 1930 came his appointment to the destroyer HMCS Vancouver as executive officer, followed a year later by assignment in 1931 to the Royal Navy's America and West Indies Station for special signals duties.

This was followed by service in the Canadian destroyers Saguenay and Vancouver. Then, in 1937, he was appointed Director of Naval Reserves.

War was only eight months away when Admiral Mainguy entered the Royal Naval College at Greenwich, England, for a staff course. On completing this course, he was appointed in October 1939 to command the destroyer Assiniboine and was senior of-

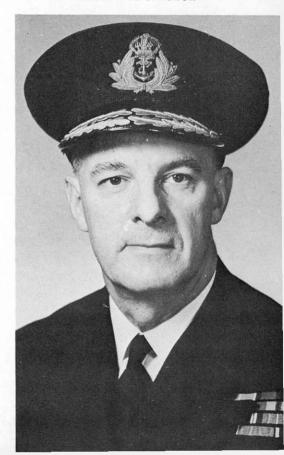
ficer of some of the first convoy escort groups of the war.

Promotion to the rank of captain came in June 1941, when he was also appointed Captain (D) Halifax. Later in the same year he became Captain (D) Newfoundland. During his term of service there, Admiral Mainguy showed intense interest in the personal welfare of the officers and men of the escort vessels. He founded the Sea-Going Officers' Club, the "Crow's Nest", and established a rest camp for the men in the interior of the Avalon peninsula. The rest camp had facilities for swimming, fishing and outdoor sports and was designed to provide a complete change from the rigours of the North Atlantic.

In November 1942 Admiral Mainguy was appointed Chief of Naval Personnel and a member of the Naval Board at Naval Headquarters. After holding this post for almost two years, he was appointed commanding officer of Canada's first modern cruiser, HMCS Uganda.

The *Uganda* was to have been the vanguard of a fleet of 60 Canadian warships in the war against Japan. As it happened, she was the only Canadian warship to see action in the final phases of the Pacific war. Under Admiral

REAR-ADMIRAL H. G. DeWOLF



Mainguy's command, she took part in the bombardment of Sakishima and was flagship of the naval force which bombarded the Japanese sea fortress of Truk.

In the early months of 1946, the *Uganda*, still under his command, made a combined training and goodwill cruise around the continent of South America. She was the first Canadian warship to round Cape Horn.

Admiral Mainguy's service in the Second World War won him the OBE "for gallantry and distinguished services before the enemy" as Senior Officer of Convoy Escort Groups. In addition, he was twice mentioned in despatches, in 1941 "for outstanding zeal, patience and cheerfulness, and for never failing to set an example of wholehearted devotion to duty" and, after the war, for his services in command of the *Uganda* in the Far East.

His services as Captain (D) in Newfoundland were recognized in 1946 by the award of the United States Legion of Merit in the Degree of Officer, the citation stating that his forceful and proficient performance of duty had contributed materially to the high state of readiness of the surfaces forces of Task Force 24, operating from St. John's.

He was promoted to the rank of commodore in July 1946 and a month later was appointed Commanding Officer Pacific Coast, with the acting rank of rear-admiral. He was confirmed in rank on July 1, 1947. On October 1, 1948, he took up the appointment of Flag Officer Atlantic Coast.

Vice-Admiral Mainguy served in 1949 as chairman of a three-man commission appointed by the Minister of National Defence to study service conditions in the post-war Navy. The commission's findings—"The Mainguy Report"—have had a fundamentally beneficial effect on the development of the post-war Navy.

Vice-Admiral Mainguy became Chief of the Naval Staff on December 1, 1951, at which time he was promoted to his present rank.

#### REAR-ADMIRAL H. G. DeWOLF CBE, DSO, DSC, CD, RCN

R EAR-ADMIRAL Harry George DeWolf was born at Bedford, Nova Scotia, on June 26, 1903.

He entered the Royal Canadian Navy in 1918 and received his early training at the Royal Naval College of Canada and in ships of the Royal Navy. He specialized in navigation, serving in Canadian destroyers as navigating officer and executive officer.

During 1935 and 1936 he served at Naval Headquarters, going from there to the Royal Navy Staff College at Greenwich in 1937. He was next appointed to the staff of Vice-Admiral Sir Charles Kennedy-Purvis, KCB, commanding the First Cruiser Squadron in the Mediterranean.

Early in the Second World War he commanded the destroyer HMCS St. Laurent. Under his command, the St. Laurent took part in the evacuation of France and, while on anti-submarine duty in the North Atlantic, rescued 859 survivors of the SS Arandora Star, a liner, carrying German and Italian prisoners, which had been torpedoed by a U-boat. During this period he was twice mentioned in despatches.

He served as Chief Staff Officer to the Commanding Officer Atlantic Coast at Halifax from August, 1940, to May, 1942, and later became Director of Plans at Naval Headquarters. He was also secretary to the Chiefs of Staff Committee in Ottawa.

Admiral DeWolf took command of HMCS *Haida*, Tribal Class destroyer, when she was commissioned in August 1943. During a six-month period in 1944, the *Haida* took part in a series of successful night actions in the English Channel and Bay of Biscay and, in addition, shared in the destruction of an enemy U-boat.

"For gallantry and leadership as senior officer in two successful destroyer actions" on April 26 and 29, 1944, Admiral DeWolf was awarded the Distinguished Service Order. Shortly afterward he received the DSC for services in action with a destroyer force on June 8 and 9.

The submarine sinking earned him a mention in despatches and a month later he was mentioned in despatches, for the fourth time, for "good services in attacks on enemy sea communications".

Admiral DeWolf was appointed Commander of the Most Excellent Order of the British Empire in January 1946 for his wartime services in responsible appointments ashore and as a commanding officer of HMC destroyers at sea. In May of that year he received the United States Legion of Merit, Degree of Officer, and in December 1948 he was awarded the Norwegian King Haakon VII Cross of Liberation.

Leaving the *Haida* late in 1944, he went to Naval Headquarters as Assistant Chief of Naval Staff. From January 1947 to September 1948 he commanded, successively, the aircraft carriers *Warrior* and *Magnificent*, with the additional appointment of Senior Canadian Naval Officer Afloat.

In September 1948 he was promoted from commodore to rear-admiral and appointed Flag Officer Pacific Coast with headquarters at Esquimalt, B.C.

After two years in this post, he went to Naval Headquarters in Ottawa as Vice-Chief of the Naval Staff and a member of the Naval Board.

On December 15, 1952, Admiral De-Wolf was appointed to Washington, D.C., as Principal Military Adviser to the Canadian Ambassador, Chairman of the Canadian Joint Staff, Washington Representative of the Chiefs of Staff, Canadian Representative of the Military Representatives Committee of the North Atlantic Treaty Organization and Canadian Liaison Representative to the Supreme Allied Commander, Atlantic.

He becomes Chief of the Naval Staff on January 16, 1956, with the rank of vice-admiral.



HMCS Shearwater was the scene of a wings parade of graduates from the Observer School, RCN Air Station. The school, one of Canada's NATO commitments, trains both Royal Navy and RCN personnel. Captain W. G. Parry, RN, Senior Naval Adviser to the U.K. High Commissioner, at Ottawa, pins wings on Midshipman John E. Lindsay of Bramhall, Cheshire, England. Lt.-Cdr. Peter C. Berry, RCN, of Ottawa, Ont., officer-in-charge of the school, is at the left. (DNS-14608)

## OFFICERS AND MEN

REAR-ADMIRAL (E) John Grant Knowlton, OBE, CD, Chief of Naval Technical Services and a member of the Naval Board since September 1947, was to proceed on retirement leave January 9.

His successor is Commodore (E) William Walter Porteous, OBE, CD, promoted to rear-admiral (E) on taking up the appointment.

Captain (E) John MacGillivray was to succeed Commodore Porteous on January 4, in the rank of Commodore (E), as Commodore Superintendent, Atlantic Coast, and Superintendent, HMC Dockyard, Halifax.

Cdr. (L) Stuart Edmund Paddon, on December 27 assumed Captain MacGillivray's previous duties as Deputy Superintendent and Co-ordinator Refit and Repair, Pacific Coast, and Deputy Superintendent, HMC Dockyard, Esquimalt. He has the acting rank of captain (L).

In his eight years as head of the Navy's technical branches, Rear-Admiral Knowlton directed an unprecedented peacetime ship construction program, together with a comparable development of shore services for the fleet. A particular achievement of his administration was the production, from drawing board to commissioned ship, of HMCS St. Laurent, the first of 14 Canadian designed and built destroyer escorts.

In a naval career that began in 1918, Rear-Admiral Knowlton served extensively at sea as an engineer officer in a number of ships of the RN and RCN before assuming, in 1941, the first of a series of responsible appointments ashore. During most of the Second World War he had an important part in the buildup of the naval dockyard in Halifax from its small pre-war requirements to a sprawling repair and operating base for a navy of 400 ships and nearly 100,000 officers and men.

Rear-Admiral Knowlton was born on August 31, 1903, in Saint John, N.B. He entered the Royal Naval College of Canada in 1918, graduating as a midshipman in 1921. He served in ships of the Royal Navy until 1924 and then took a course in specialized engineering at the Royal Naval Engineering College, Keyham, Devonport. Following further service with the RN, from 1926 to

1928, he returned to Canada and was appointed to Headquarters.

In 1931 he joined the *Champlain* (destroyer) and served as her engineer officer until 1933, after which he was appointed to *Stadacona*. During the years 1935 to 1938 he served in the destroyers *Skeena* and *Fraser*. On promotion to commander (E) in 1938 he was appointed to the first *Ottawa* (destroyer) as Flotilla Engineer Officer, transferring to another, the *Assiniboine* 



REAR-ADMIRAL J. G. KNOWLTON OBE, CD, RCN

in May, 1940. In February, 1941, he was appointed for a short period as Chief Engineer of the Dockyard in Halifax, and subsequently to the staff of the Flag Officer Newfoundland Force at St. John's. In July, 1941, he was appointed Flotilla Engineer Officer on the staff of Captain (D) Halifax.

He became Engineer Superintendent of the Dockyard in Halifax, in May 1942 with the acting rank of captain. This rank was confirmed in January 1944 and he was named Deputy Superintendent of the dockyard and Engineering Superintendent.

Admiral Knowlton was appointed an Officer of the Order of the British Empire in June 1945, "for excellent service in building up HMC Dockyard, Halifax, from the small requirements of a pre-war Navy to its present import-

ant position as an operating and repair base".

In December of that year, he went to Headquarters as Deputy Chief of Engineering and Construction. He was granted the acting rank of commodore (E) early in 1946. On September 1, 1947, he was appointed Chief of Naval Technical Services and was confirmed in the rank of commodore (E) on January 1, 1948. He was promoted to the rank of rear-admiral (E) a year later.

His retirement leave concludes September 27, when he will be discharged to pension. Admiral Knowlton's total time in the service by then will be a full 38 years.

#### Chief and POs Commissioned

The promotion of six chief and petty officers to commissioned ranks was announced in early November. The promotions were as follows:

PO Allan J. Rideout and CPO George G. Hogg to be acting commissioned boatswain.

The following chief petty officers to be acting commissioned electrical officers: Bernard Leroy McInnis and William Sidney Norman.

To be acting commissioned radio officers: Ronald Emmerson and Joseph Robert Nowlan.

The last-named four were recent graduates of the RCN Preparatory School at Esquimalt. Cd. Boatswain Hogg and Cd. Boatswain Rideout attended courses in the United Kingdom.

#### Cdr. E. F. B. Watt Leaves Service

Poet, journalist, veteran of both World Wars and, above all, a man with a firm conviction that the principles of Christianity can be applied to everyday life both in and out of the Navy.

That the foregoing words refer to Cdr. (SB) E. F. B. (Ted) Watt, MBE, CD, will be immediately recognized by his many friends in the service. Cdr. Watt went on rehabilitation leave on December 5 after more than 15 years of continuous service in the reserve and regular force.

Born in Woodstock, Ontario, on March 30, 1901, he was not yet 16 years of age when he joined the RNCVR

(Overseas Division) as an ordinary seaman on February 15, 1917. He had served on the Dover Patrol and in the North Sea in trawlers and in the North Atlantic in HMS Cornwall by the time he was demobilized as a 17-year-old leading seaman in December, 1918.

When the RCNVR was formed in 1923, he was commissioned acting sublieutenant and by 1925 had become a lieutenant.

Cdr. Watt was senior officer of the Naval Boarding Service from July 1940 to September 1945 and personally conducted several thousand of the 50,000 boardings of merchant ships using Canadian and Newfoundland convoy assembly ports.

The boardings were primarily intended to prevent sabotage and subversive activities, but Cdr. Watt found it was often just as important to deal directly with problems of morale and discipline which could as easily disrupt the sailing of a ship as direct enemy

A friendly, heart-to-heart talk with disgruntled merchant seamen often meant the sailing of a ship which might otherwise have missed her convoy.

After the war, Cdr. Watt served for a time as Deputy Director of Naval Information and in 1948 he became Staff Officer, Psychological Warfare, to the Director of Naval Intelligence, a post he held up to his departure from the service.

Between wars Cdr. Watt was an active journalist. He was on the staff of the Edmonton Journal for nine years. For another dozen years he was a freelance writer of fiction, magazine articles and poetry. He covered pioneer "bush pilot" flights into the Arctic and inaugural airmail flights to Aklavik and between prairie cities. He was present as both prospector and reporter during the opening up of the Great Bear Lake uranium field, at a time when radium was the metal most eagerly sought.

His best known book of verse, published in 1943, is entitled "Who Dare to Live" and is a narrative poem of the Atlantic convoys. Three other books of his verse have been published and his poems are to be found in school readers across Canada.

The citation to the MBE awarded Cdr. Watt in 1946 said:

"In 1940 Lt.-Cdr. Watt conceived the idea of using the boarding party, which had been organized primarily for checking ships before proceeding in convoy to the U.K., to encourage the general morale of Merchant Seamen.

"From this idea, the system quickly spread to all Canadian ports and became a very potent and valuable factor in the general handling of merchant seamen.

"Lt.-Cdr. Watt was responsible for the training of all boarding officers and ratings, and their undoubted success was very largely due to the spirit which he infused and maintained in them throughout the war."

Admiral Mainguy Navy League Speaker

"Unless some future conflict should take place of a nature resulting in the total destruction of civilization-or even man himself-I cannot believe that the safe passage of ships will not again be vitally necessary to our survival and that of our friends," Vice-Admiral E. R.



Rear-Admiral H. N. Lay, Vice-Chief of the Naval Staff, is shown presenting the Flag Hoisting Efficiency Trophy to Ord. Sea. J. C. Tetreault of HMC Communication School in Cornwallis. (DB-6081)

Mainguy, Chief of the Naval Staff, said in addressing the national council of the Navy League of Canada.

The occasion was the annual dinner of the council at the Royal York Hotel in Toronto. The dinner marked 60 years of service to Canada by the Navy League and C. K. McLeod, National President, spoke of past activities and of the continued progress made in the Diamond Jubilee Year.

Admiral Mainguy spoke of the Navy's progress during his term as CNS.

"We have training facilities far beyond those that we had even a few years ago," he said. "We are developing our essential aviation branch to a high peak of efficiency. We are operating our ships now in squadrons where not so very long ago we were operating in single units or small and temporary groups."

Navy League meritorious service certificates were presented to Victor L.

Brett, of Halifax, and A. N. Norris, of Regina, by Rear-Admiral K. F. Adams, Flag Officer Naval Divisions. He himself was honoured with a cash prize of \$100 as the Canadian with the earliest association with the Navy League of Canada, an association that went back to his boyhood in 1916. Admiral Adams returned the prize with the request that it go to the person with the next longest association.

The President's Trophy, for the Royal Canadian Sea Cadet showing the most outstanding qualifications of leadership in the year went to Sea Cadet PO Ronald DeForest of RCSCC Ajax, of Guelph, Ont. Scholarship certificates were presented by Captain (SB) A. W. Baker, RCN(R) (Ret'd) to Cadets William J. Strachan, of Fort William, Robert R. N. Gordon, of Weston, Ont., and George D. McKay, of Toronto.

#### Writer Scores High Standing

Ldg. Sea. Brian Wyatt passed first in a class of 12 administrative writers qualifying for Trade Group One with an average of 95.8 per cent at the Naden Supply School.

Ord. Sea. L. F. Croxen led a class of seven pay writers qualifying for Trade Group One with an average of 88.2. The courses were completed on September 9.

#### WEDDINGS

Leading Seaman Kenneth Thomas English, Shearwater, to Miss Frances May Clifford,

Able Seaman George Hayley, New Liskeard, to Miss Constance Jeannette Moore, Dartmouth, N.S.

Able Seaman Donald Graham Lee, Churchill Radio Station, to Miss Mary Gertrude Kathleen Caverley, Ottawa.

Wren Isla Moore, Stadacona, to AB Jack

Milligan, Trinity.
Able Seaman William A. Savage, Naden, to Miss Ann Laverne Warner, White Rock,

#### BIRTHS

To Lieutenant - Commander (S) Emelian Adamic, Cornwallis, and Mrs. Adamic, a son.
To Lieutenant D. W. Atkinson, Venture, and Mrs. Atkinson, a daughter

To Leading Seaman E. E. Biggar, Queen

Charlotte, and Mrs. Biggar, a son.
To Lieutenant-Commander Donald Cameron, Naval Headquarters, and Mrs. Cameron, a daughter.

To Lieutenant-Commander William Farrell, Cornwallis, and Mrs. Farrell, a son.

To Lieutenant-Commander R. A. Groskurth, Naden, and Mrs. Groskurth, a daughter.

To Rear-Admiral Horatio Nelson Lay, Naval Headquarters, and Mrs. Lay, a daughter. To Petty Officer Gordon Lonar, Stadacona,

and Mrs. Lonar, a daughter.
To Petty Officer Ronald A. Lowry, Loon, and Mrs. Lowry, a son.

To Petty Officer Edward Merchant, Stada-cona, and Mrs. Merchant, a son.

To Leading Seaman Walter McCue, Naden, and Mrs. McCue, a daughter.
To Petty Officer Kenneth H. Thompson,

HMS Excellent, and Mrs. Thompson, a daughter.
To Chief Petty Officer Ronald Wilson, Queen Charlotte, and Mrs. Wlison, a daughter.



This is an artist's impression of the Royal Navy's new guided weapon ship on whose design Admiralty experts are now working. "Something over 10,000 tons and an obvious successor to the cruiser," to quote the First Lord of the Admiralty, the ship will be at first armed with ship-to-air guided missiles and guns, the latter to be eventually replaced by ship-to-ship guided weapons when they are fully developed. (Photo courtesy U.K. Information Office, from Admiralty.)

## LORD MONTGOMERY ON THE NAVY'S ROLE

#### Perhaps the Only Undamaged Echelon After Attack

"... It may well be that the Navies will play a definite part in saving us from complete disaster after a heavy surprise attack."

THESE WORDS of Field Marshal Lord Montgomery were quoted by the First Sea Lord, Admiral the Earl Mountbatten of Burma, in addressing officers of National Defence Headquarters during his late October visit to Ottawa.

The Field Marshal's remarks were originally addressed to the Royal United Service Institute in London. In the course of this lecture, Lord Montgomery said:

"If the strength of our offensive air power fails to deter an aggressor and war is forced upon us then it will be vital to have control of the seas.

"This will be necessary, not only for the transport of men and materials, but also to give increased flexibility to our operations generally."

Lord Montgomery observed that he was "on record as saying that in an East-West war the West could not win if it lost control of the Atlantic." One way to bring Western Europe to its knees, without necessity of complete thermonuclear destruction, would be to cut off all supplies.

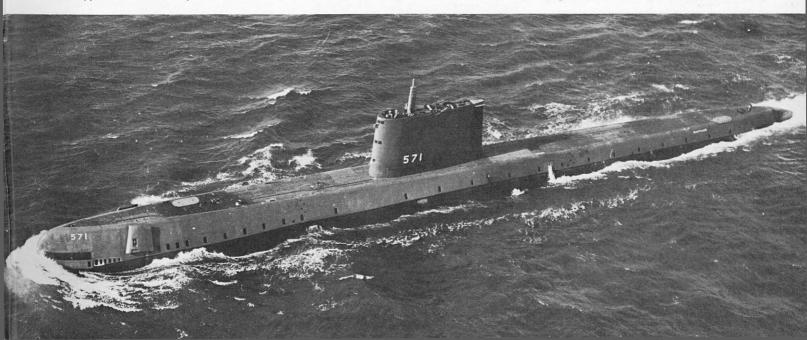
Later in the same lecture the Field Marshal said: "Navies require aircraft for locating and destroying submarines and for the defence of Fleets at sea. So far as we can see at present, aircraft

cannot be operated economically or efficiently in mid-ocean against submarines or indeed against raiding cruisers unless some form of floating airfield can be provided there.

"For these reasons there may always be a need for vessels from which to operate aircraft. But with progress in vertical take-off and landings we should aim to design something smaller and cheaper than the present aircraft carrier. We could then dispense with the present form of aircraft carrier, which is very expensive.

"There is also a definite role for navies in the offensive use of shortrange ballistic missiles fired from submarines, or from ships specially designed for the purpose.

The United States Navy's first atomic-powered submarine was USS Nautilus, pictured here. The United Kingdom is also showing a keen interest in the application of nuclear power to submarines and surface vessels. (Official United States Navy Photograph.)



"It is sometimes considered that the day of the navies is over," said Lord Montgomery. "I disagree profoundly.

"Indeed it may well be that the navies will play a definite part in saving us from complete disaster after a heavy surprise attack. Navies will escape damage initially so long as the fleets are at sea and suitably dispersed. The fleets at sea, in being, may therefore be the only undamaged echelon in the armed forces after the initial clash."

Earl Mountbatten also quoted the foregoing extracts from the Field Marshal's lecture in an address to the Navy League at Mansion House, London, last October and had the following to say about the present and future composition of the fleet:

"Meanwhile we have inherited from the last war an aging conventional Navy supported in this country by large concentrated bases of maintenance and supply organized on the proven methods of the past. The nuclear threat requires changes in methods and organization and these will be given the most serious consideration. Research offers us in the future, novel weapons, equipment and machinery, and careful judgment is needed between maintaining adequate conventional strength and waiting for the fulfilment of research.

"As you know, we are making a start with guided weapon ships, but this is only a first step.

"Meanwhile it should never be forgotten that the ships we have now will continue to perform a very vital job in conserving the ties and unity of the Commonwealth in peace, as well as carrying out in war the tasks involved in control of the seas which will not be transformed by the nuclear weapon."

On another occasion, addressing the Institute of Fuel, Earl Mountbatten said that the coming into service of nuclear-powered submarines was only a matter of time. He said:

"For some time now the Admiralty have been examining the possibilities of atomic propulsion for men of war, more particularly submarines. Progress

#### First Sea Lord Thrilled by Visit

The following message was sent to Vice-Admiral E. R. Mainguy, Chief of the Naval Staff, by the First Sea Lord, Admiral the Earl Mountbatten, on his return to the United Kingdom:

"Thank you very much for the excellent arrangements made for our visit to Canada and for your kindness and hospitality. It has been a real thrill experiencing the enthusiasm of all members of the Royal Canadian Navy whom I have had the pleasure of meeting."

in the early stages has inevitably been slow—this country has not the resources of the United States—but our ideas are now taking definite shape and, though we shall not have a nuclear-powered submarine in the Royal Navy for some years yet, her arrival is only a matter of time.

"The Americans have already got the submarine *Nautilus* (atomic-powered) actually at sea, and I am told she can go round the world submerged without refuelling," Earl Mountbatten said. "They have another, the *Sea Wolf*, on the stocks." (Since the First Sea Lord spoke, this second atomic submarine has been launched.)

The U.S. Navy's nuclear-powered submarines use the heat of the reactor to generate steam for a more or less conventional power plant. Admiral Mountbatten suggested the time would come when it would be possible to use nuclear power to operate gas turbines. The atomic establishment at Harwell was giving the Navy the greatest help, he said.

At a dinner of the Chamber of Shipping, the First Sea Lord said:

"Russia has ready for immediate service 350 modern submarines—the greatest potential threat the Royal Navy has ever been called upon to face."

The Russian naval air service had 4,500 aircraft, "which greatly adds to the menace," he said. Since the war the Russians had built 20 large first-class cruisers, more than 100 destroyers, and more than 100 large and 60 small submarines.

(Note: All the quotations, direct and indirect, in the foregoing article, appeared in the October issue of "The Admiralty News Summary".—Ed.)

### SEA ENTERPRISE

Eight Canadian ships took part during the last week of September in NATO exercise Sea Enterprise, conducted in the Norwegian Sea. Participating in this exercise, designed to practise a carrier force in strikes against shore targets, was Task Group 301, consisting of the Magnificent, wearing the broad pennant of Commedore E. P. Tisdall, the Huron, Haida and Micmac, of the First Canadian Destroyer Squadron, and the Algonquin, Prestonian, Toronto and Lauzon (First Canadian Escort Squadron).

The Magnificent and the destroyers operated in the anti-submarine support role for the carrier striking force, comprised of the Royal Navy carriers Eagle, Albion, Bulwark and Centaur, the cruiser Glasgow, four Battle Class and two Daring Class destroyers; as an observer with this group was the experimental tactical command ship USS Northhampton.

Although persistent heavy swell, high seas and poor visibility prevented flying operations during most of the exercise, the same conditions made replenishment operations of great value for training purposes. During the first night of the exercise the *Magnificent* received oil fuel from the fleet oiler Olna in thick fog, and twice the next day, in 50-yard visibility, went alongside the fleet supply ship *Retainer* for provisions, mail, and other stores.

On completion of the exercise on September 28, all units entered the spacious harbour of Trondheim, Norway, for an exercise critique and a few days' rest and relaxation. This marked the conclusion of the longest distance logged by the *Magnificent* between ports — 7,500 miles — and her

longest period at sea — 25 days. The small but historic coastal port of Trondheim gave a great welcome to its 12,000 English, Canadian, American and Norwegian visitors.

The Canadian ships were the last to leave Trondheim; on October 3 they steamed in column out through the picturesque fiord. Having detached the escort squadron for a visit to Greenock, Scotland, the Magnificent and the destroyer squadron steamed via the North Sea and the English Channel to Plymouth for a 12-day self-maintenance period—for painting the ships, storing, and boiler-cleaning.

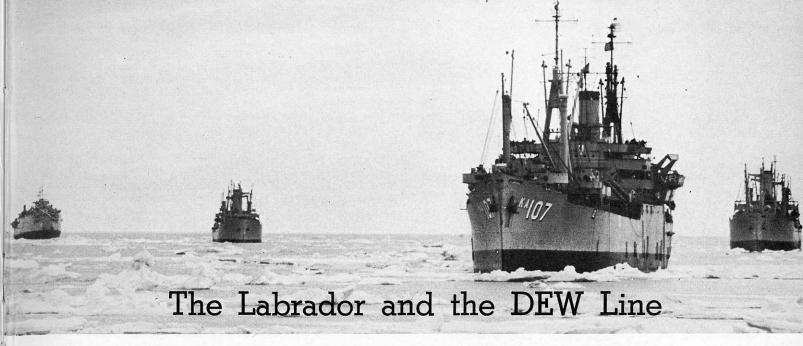
The carrier paid an informal visit to Rotterdam from October 24 to 28, while the destroyers were in Amsterdam. In November the group proceeded to Valencia, Spain; Marseilles, France; Genoa, Italy, and then Gibraltar, before returing to Halifax on December 6.

## FIRST CASUALTIES OF RCN RECALLED

Naval personnel across Canada and in ships at sea honoured dead of two world wars on Remembrance Day, November 11.

Ten days earlier a brief memorial service of wholly naval significance was held in St. Paul's Naval and Garrison Church, Esquimalt, in memory of the first battle casualties of the Royal Canadian Navy, the four Canadian midshipmen who died in the Battle of Coronel on November 1, 1914.

Rev. J. A. Roberts conducted the service and wreaths were placed at the memorial plaque in the church by Cadet John W. MacIntosh, of HMCS *Venture*, and Cadet J. C. Woods, of Royal Roads.



A DEW-line convoy, whose most immediate enemy is the ice, is guided safely through by the Labrador. (LAB-1159)

"INTENTIONS proceed Strait of Belle Isle."

Thus did HMCS Labrador inform Naval Headquarters on November 10 of her departure from the Arctic waters in which she had spent the past five months and where she had taken part in one of the greatest seaborne operations ever attempted in the Far North.

The Labrador made history in 1954 by becoming the first naval ship to negotiate the Northwest Passage and to circumnavigate North America. This year she has added another thick chapter to her record of achievements.

Her principal and most testing assignment was to serve, from mid-June until the end of September, as senior ship of a task group of some 14 ships charged with the delivery of thousands of tons of supplies for Distant Early Warning (DEW) Line sites in the Foxe Basin area of the Eastern Arctic.

The project involved not only the delivery of personnel, equipment and supplies, but numerous other associated tasks requiring a high degree of operational efficiency and an equivalent amount of effort. These included the survey of previously uncharted waters, selection and survey of landing sites, installation of navigational control stations and, most important, the safe passage, through hazardous, ice-infested seas, of the ships comprising the Task Group.

All objectives were successfully attained and the part played by the Labrador was recognized in the form of messages of commendation and congratulations to the commanding officer, Captain O. C. S. Robertson, of Montreal, and his ship's company. Among those addressing messages to the ship

were the Naval Board of Canada; Admiral Arleigh Burke, Chief of Naval Operations, U.S. Navy; Vice-Admiral F. C. Denebrink, commander of the U.S. Navy's Military Sea Transport Services, and V. B. Bagnall, project manager, Western Electric Company, prime contractor for the DEW Line.

BUT DESPITE the high praise heaped upon them and the knowledge that they helped to make naval history, it is probable that the *Labrador* ship's company will be just as glad if they never see, at least for a while, another

#### Operations Gave Ship New Motto

The Labrador, as was observed in a summary of the ship's operations, "played it by ear" in the Far North during the summer. Charts weren't much help, since soundings were few and far between. A beach where a landing was intended might be clear one day and choked with ice the next, depending on the whim of the wind.

It was not surprising that the Arctic patrol ship adopted for the time being a new motto. This bit of wisdom is preserved in a cartoon presented to the *Labrador* by USS *Rushmore*, a companion in the Foxe Basin operations.

The cartoon, now framed and hanging in the Labrador's wardroom, shows a thoroughly unhappy fox sitting in a basin of ice cubes (Foxe Basin—get it?), below which are inscribed the ominous words:

"Non Audiviste Omnes Esse Mutatum."

Picayune scholars may dispute it, but that's Latin, chum, and translated with the utmost freedom, it sums up Arctic operations generally:

"Haven't you heard? It's all been changed."

walrus, or polar bear, or even an ice cube.

To them the job was anything but glamorous. For the most part it entailed long hours and hard, tedious work. When to that were added bad weather, the strain of operating in unknown water and the responsibility for the safety of a dozen or more other ships, it became something less than a pleasure cruise.

Worst of all, perhaps, was the monotony — of work, of scenery and of dwelling with 260 other persons in a steel-enclosed space 269 feet long, 63 feet wide and 40 feet in depth. Many of the *Labrador's* ship's company did not set foot on shore from the time she left Halifax until she returned.

The Labrador's 1955 operations properly began on June 1, when, at 3 p.m., Atlantic Daylight Time, she set sail from Halifax. She carried 25 officers, 13 scientists and 222 men, a six-month supply of provisions, three helicopters and a bewildering amount of special equipment and gear.

As soon as the ship was clear of the harbour, the captain spoke to the ship's company, outlining her role in the DEW Line project and the scientific work in which she would be engaged. No sooner had he finished than the scientific staff began oceanographic and hydrographic studies that were to continue almost without let-up throughout the ensuing months

Instituted, too, was a training program involving all hands, and particularly those who would, or might, have special duties to perform in the Arctic. These included hydrographic, shore station, beacon erection, tide gauge and search and rescue parties.

By June 9 the *Labrador* was in the Strait of Belle Isle, which body of water fully lived up to its reputation. Visibility dropped to a few hundred yards and the radar screen looked as though it had chickenpox, with as many as 50 icebergs showing up at one time. This situation continued until June 11, when loose pack ice was met.

PROCEEDING northward through Davis Strait, the ship took numerous oceanographic stations, encountered the "white fleet" of fishing vessels and sighted its first seals of the 1955 trip.

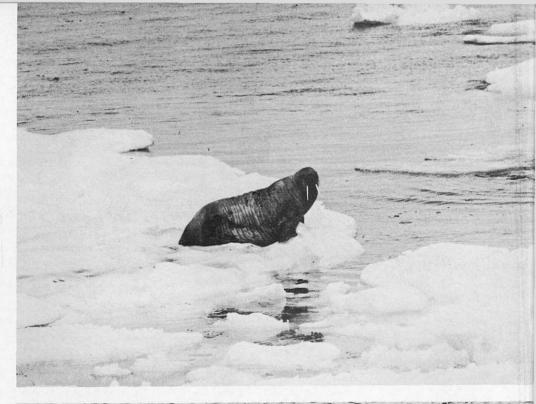
On June 15 the Labrador entered Hudson Strait. Heavy ice stretched to the westward, as far as the eye could see, and icebreaking began in earnest. The helicopters took off for a reconnaissance and eventually located a stretch of open water on the north side of the strait. To the tune of some monumental crashes and the disturbance of several polar bears, the ship worked her way in that direction.

Cape Dorset, Baffin Island, was reached on June 21, and that morning, while the ship lay about 10 miles off shore, Captain Robertson was flown by helicopter to the Hudson's Bay Company post. With him he took a box of fresh provisions—potatoes, eggs, lemons and grapefruit. On a second trip, the helicopter took ashore the medical officer, Surgeon Lt.-Cdr. D. J. Kidd, of Halifax, to treat Mrs. J. W. Connington, of Ville la Salle, Que., wife of the settlement's male nurse.

That afternoon the geodesist, W. D. Forrester, of Ottawa and Oshawa, Ont., was flown to Salisbury Island to obtain an astronomic "fix". He was recovered the next morning and the *Labrador* proceeded to "fix" several rocks off the eastern end of the island. Here, as elsewhere during the voyage, all positions in which the ship anchored, or reefs and rocks discovered, were given names, the names to be submitted in due course for the approval of the Geographical Names Board.

On the 23rd a helicopter visit was made to Ivugivik, on the northwest tip of Quebec, near Cape Wolstenholme. Medical treatment was given three Eskimos and here, as at Cape Dorset, fruit and canteen stores were left as gifts from the *Labrador*.

Progress from here on was slow, the ice being under considerable pressure. However, with the aid of helicopter reconnaissance, the thrust of six engines and favourable tidal streams, Coral Harbour, on Southampton Island, was reached on June 28. An unbroken sheet of ice covered the inner and outer harbours, so the *Labrador* went to work.





A dripping, truculent polar bear and a blandly curious walrus. (LAB-253; LAB-1138)

Carving out the ice in large arcs, the ship slowly ate her way into the anchorage.

Twenty-four hours later the harbour was sufficiently clear to permit landing craft and boats to proceed with parties to survey and clear the beach and anchorage and set up navigational beacons. While this was going on, the ship assisted the last of the ice out of the harbour.

Leaving Coral Harbour on July 3, the *Labrador* literally punched her way into Foxe Channel and by the 7th was in the vicinity of Cape Fisher, on the east coast of Southampton Island.

H ERE THE HELICOPTERS particularly distinguished themselves. Cape Fisher had been selected as the site of a navigational control (EPI) station, to be installed and manned by

personnel from the *Labrador*. Ice conditions precluded the use of boats and so the entire lift of personnel and equipment to shore was carried out by helicopter.

The first aircraft took off at 8.30 a.m. on July 8 and was followed by the others in quick succession. From then on there was a constant stream of helicopters landing on, loading and taking off. Construction party and handlers went in first, then tents, Atwell shelter, tide gauge, lumber, generators, fuel, mast, EPI equipment and food.

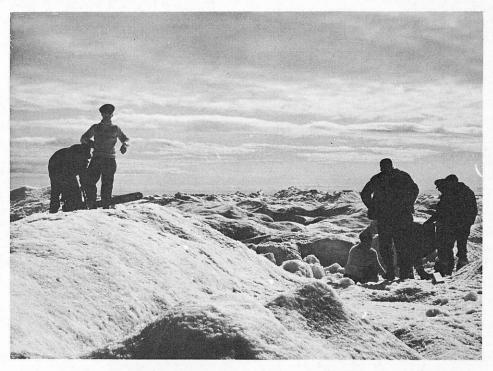
Throughout the operation the Labrador "lay to" between three and four miles off-shore in fairly heavy ice.

The job was completed and the station operating at 5 p.m. on the 9th. It had taken 19.9 flying hours, involving a total lift of 28,640 pounds, and 290.5 man-hours on the beach.

These figures were compared with those reported by a U.S. Coast Guard cutter which landed an EPI station on Banks Island by boat in 1954. That operation took 444 man-hours and 36 hours working around the clock. The Labrador took 21.5 hours working in two shifts.

Following the airlift operation, one of the helicopters required a minor inspection. The maintenance crew went to work at 8.30 a.m. on Sunday, the 10th, and finished up at 11 o'clock that night.

ON JULY 12 installation was begun of a second EPI station, at Cape Enauolik, Baffin Island, on the opposite



If ice should bar the way-blow it up. (LAB-1014)

side of Foxe Channel. This was a much more difficult task than the first, due to strong tidal currents and to shallow water that compelled the ship to remain at least eight miles from the beach.

Nevertheless, the operation was completely successful. The helicopters went to work at 1.30 p.m. on the 12th. Personnel were landed first, and after them came accommodation, equipment, fuel and food. The airlift was completed

at 12.30 noon on the 14th and the station was operational at 5 p.m.

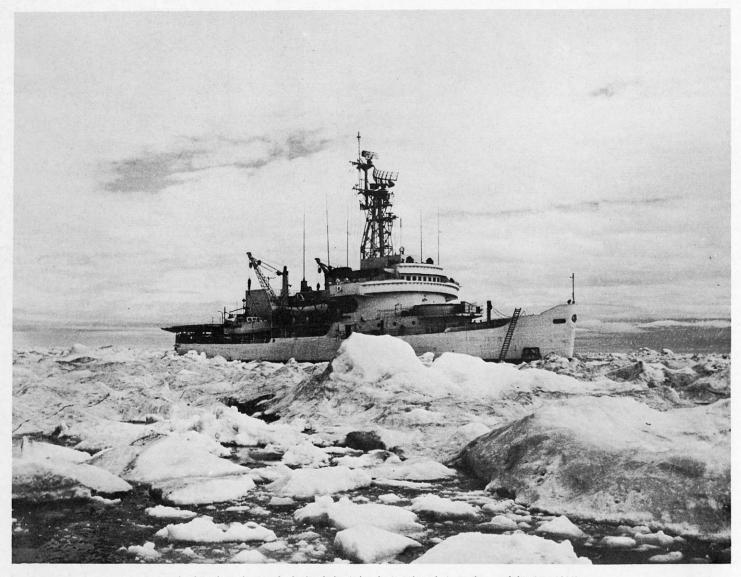
These navigational stations had a key role to play during the coming months. Up until the time the *Labrador* entered Foxe Basin, there were only two lines of soundings, indicating the depth of water, on the chart of an area extending 350 miles from north to south. A few coastal soundings were also on the chart but these were of little use to a ship the size of the *Labrador*, drawing 30 feet of water.

At both Fisher and Enauolik, the geodesist, Mr. Forrester, obtained astro positions and once the stations were in service the *Labrador* was able, by taking bearings of the stations, to fix her position exactly.

Cape Enauolik operated continuously from July 14 until the evacuation of personnel by the USS Atka (of Antarctic fame) in September. Cape Fisher ran a close second. Bruce Grenfell of the U.S. Naval Electronic Laboratory, San Diego, was in charge at Enauolik and Charles Richardson, also of the NEL, and Ldg. Sea. John A. Kirkland of Blenheim, Ont., and Dartmouth, N.S., divided the duties at Fisher. The stations were manned by eight naval personnel. For two months these men kept their beacons working without fail, while living in isolated and uncomfortable circumstances aggravated by an absence of mail and little or no information on what was happening on the "outside" -- "outside" in this case being the Labrador; "Southern" Canada was too remote to consider.



The HUP heads shoreward with a packaged 90-foot antenna mast. (LAB-958)



And what does the North think of the Labrador? Why, she's in there solid! (LAB-1013)

ROM ENAUOLIK the ship sailed back to the Cape Fisher area, a signal having been received that a gale had blown down the tents and aerial at the newly-established station.

The storm damage was made good, the tents flown aboard, strengthened and repaired, and the *Labrador* turned her bow northward.

The next task was to commence surveying a possible route for the supply convoy, which would be arriving in about a month's time. This proved to be frustrating in the extreme as the southern portion of Foxe Basin was packed with ice under considerable pressure. Progress was slow and on one occasion high explosives were used to blast a way through the ice.

At this juncture the question being asked by all on board was how the convoy of unprotected merchant ships was ever going to get through.

Eventually the Labrador reached what was to be one of the main unloading

sites for the DEW Line project in the eastern Arctic. In conjunction with the Foundation Company of Canada's engineers, who were already at the site, a survey of the proposed anchorage area was begun and a beach, suitable for receiving landing craft, was located and surveyed.

The Labrador's frogmen, or "madmen", as they became known, went to work in earnest, making a careful underwater examination of the beach approaches for rocks, reefs and other obstructions that might endanger landing craft.

Survey work was hampered by ice, snow and rain and it took more than a week to complete the job and prepare and produce charts of the area.

HAT MAY HAVE BEEN the most northerly softball game ever played took place during this period, when a recreation party was landed and defeated a Foundation Com-

pany team, 24 to 23. Local rules had to be invoked as the diamond included two ponds and a lake that encroached on left field.

At the end of the month the Labrador sailed to re-supply the EPI stations and rendezvous with the ships of the Task Group.

En route, she continued with her survey of the basin. This time she was hampered not only by ice but by walrus families which, when disturbed, insisted on swimming into the path of the ship. There was no alternative but either to alter course or stop the engines. During one four-hour watch, 52 walruses, in pairs or small groups, were counted on the ship's course.

After the EPI stations had been resupplied, in both cases by helicopter, the *Labrador* set course for Coral Harbour, running sounding lines and taking oceanographic stations on passage.

At Coral were met the first ships of the Task Group. Conferences were held, stores were transferred and two days later the Labrador and the survey ship, USS Pursuit, set sail for Chesterfield Inlet, at the northwest corner of Hudson Bay.

They had a rough trip and had to spend the better part of one day hove to in a 45-knot gale that blew up a steep, rough sea in the shallow waters of the bay. Commented the captain in his report of proceedings, "We rolled and pitched."

Off Chesterfield, the Labrador launched her motor sound boat, "Pogo", which proceeded, along with beach and hydrographic parties, to assist the Pursuit in surveying the beach and approaches. "Pogo", a self-contained launch, carrying a crew of six, fitted with gyro compass, radar and echo sounder, and with a range of 250 miles at seven knots, operated on her own for two days before being recovered by the ship.

THE MATTER of main concern throughout all this period was the forthcoming "big push". At the end of July, prospects had looked anything but good, with the ice in Foxe Basin forming a barrier penetrable only by icebreakers. In August, however, the outlook became much brighter. The ice began to break up and a strong northwest wind that blew steadily for a week helped to clear the convoy's proposed route.

Shortly after the Labrador's return to Coral Harbour, the decision was

short and little hope of ice conditions improving, there was not much choice if the mission was to be accomplished.

All ships were supplied with charts and their captains thoroughly briefed, and on a gray August morning the convoy formed up in two columns, with the Labrador at the head of one and the U.S. Coast Guard icebreaker Edisto leading the other. It was the beginning of what was to be, for the Labrador, a "nightmare week".

Shortly before midnight the convoy halted, due to darkness and heavy ice. At 6 o'clock the next morning they got under way again, with the icebreakers cutting the merchant ships out of the ice that had surrounded them overnight. Some idea of what the next few days were like may be obtained from Captain Robertson's report:

"Icebreakers got under way at 0600 with column moving by 0700. Ships repeatedly got stuck and had to be cut out. Stopped to examine sick man in Craig (freighter). Stopped for the night at 2200, after which rounded up stragglers. Made good-8.9 miles.

"Under way in fog at 0515. Stragglers were rounded up and the ships got under way in small groups and remained under way during night to maintain position against currents of approximately 4 knots. Made good -8.1 miles."

Some of the ships sustained superficial ice damage but this did not stop



"From Greenland's icy mountains . . .". (LAB-833)



After the DEW Line mission had been completed and the Labrador was nearing the end of her tour of duty in the north, Captain O. C. S. Robertson was flown from Coral Harbour to Montreal for an emergency operation. Her executive officer, Cdr. J. M. Leeming, brought the Labrador home to Halifax. (LAB-1219)

did it interfere with the unloading, which began as soon as the ships arrived. A landing ramp had been prepared by the Foundation Company and landing craft soon were shuttling to and from the anchorage on a round-theclock basis.

For the first time in more than two months, the Labrador had the opportunity to anchor and enjoy a moment of relative relaxation. It came at a particularly welcome time, for the preceding week had been one of considerable strain, and one in which sleep had become a progressively rare and precious thing.

URING THE STAY at the unloading site, the underwater demolitions team was again employed at locating and blowing up troublesome boulders encountered by the landing craft skippers. This type of work became second nature to the "madmen", who were "hired out" to other sites as the operation progressed.

Toward the end of the month the Labrador located and surveyed a landing beach at another selected site, then returned to the anchorage to meet Vice-Admiral Denebrink, Commander MSTS Arctic Operations 1955; Rear-Admiral R. Mason, USN, Commander Task Force Six and Commander MSTS Atlantic Area; Brigadier General F. T. Voorhees, U.S. Army, Commanding General 7278 Transportation Terminal Command, and Mr. Lohman, vice-president, Western Electric Company.

Activity was at its height as August came to a close. Unloading was well under way at one site and had started at another. Ten more ships had arrived in the area and some of the original group, having discharged their cargoes, had left for the "outside".

Further surveys of routes, anchorages and beaches occupied the *Labrador* during the first part of September. On the 16th a distress call was received from the motor vessel *Calanus*, which was operating in northern Foxe Basin under the auspices of the Department of Fisheries. It transpired that the vessel had run out of fuel, a situation which the *Labrador* quickly remedied.

The balance of the month consisted of rounds of the various unloading sites, still more survey and hydrographic work and a variety of other duties, scheduled and unscheduled. The underwater diving team returned to the ship after having been "loaned out" to do demolitions work at various beach sites. Back on board, also, came the EPI station parties from Capes Fisher and Enauolik. They had been picked up by the USS Atka and were transferred from her to the Labrador.

September ended with the *Labrador* pitching and rolling in a gale and slowly heading northward to continue with hydrographic work in preparation for next year's operations. This time she was by herself. The 1955 sea-lift, involving the delivery of some 30,000 tons of cargo to several different sites, had been completed and all other ships had departed from the area.

On board the *Labrador* it was possible at last to return to "normal routine" after more than two months of working long hours under continuously high pressure. There was still the

strain imposed by operating in uncharted waters, in steadily worsening weather conditions, but at least the ship no longer needed to be concerned about the safety of a dozen or more other vessels.

T WOULD BE invidious to single out one department as having had particularly heavy duties to perform. Two typical examples were the communications and medical staffs, both of whom found themselves carrying work loads far in excess of those normally expected of them.

As senior ship of a task group, the Labrador was the originator and recipient of a volume of traffic sufficient in itself to keep the communications staff more than fully occupied. In addition to this, however, the Labrador undertook to dispatch ship - to - shore messages for the remainder of the task group when it was found the other ships had difficulty in getting their messages passed.

A tally on September 30 showed that since June 1 the *Labrador's* radio office had handled 4,420 ship-to-shore messages, 2,305 ship-to-ship within the Task Group, 115 to the Foundation Company ashore and 5,356 inbound messages.

The medical staff, consisting of the one medical officer and one medical assistant, likewise fell heir to added responsibilities that embraced the remainder of the Task Group and also included aerial visits to shore settlements to treat Eskimo and white patients. In August alone the medical department dealt with 513 patients.

Whatever his department and whatever his job, every man in the Labrador "pulled his weight". The end result was that an operation in which the chances of disaster were always near at

hand was carried out with complete success.

But it was not only to the DEW Line project that the *Labrador* made what Admiral Denebrink described as "a substantial contribution". In consequence of the extensive surveys and studies made by the ship, much has been added to the knowledge of the Canadian Arctic area in which she operated.

During the last week of October, while the *Labrador* was completing her 1955 survey work in Foxe Basin, Captain Robertson became ill. The medical officer decided that it would be best if he were hospitalized and arrangements were made for his evacuation. The ship proceeded to Coral Harbour and from there the captain was flown by RCAF aircraft to Montreal, where he was admitted to Queen Mary Veterans' Hospital. A successful operation was performed on November 7, after which Captain Robertson was reported to be making a good recovery.

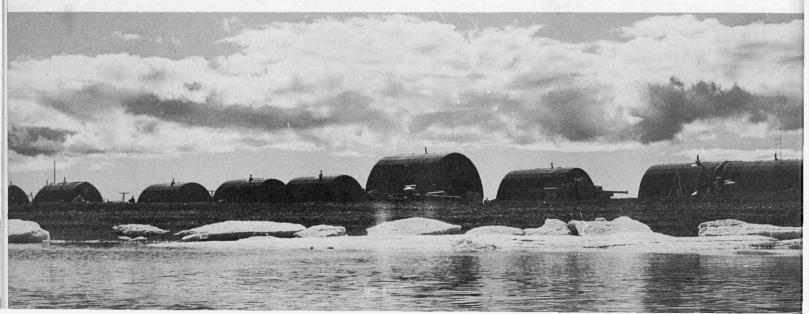
Commander J. M. Leeming, the executive officer, took over command and from Coral Harbour the ship proceeded to the western entrance to Hudson Strait for hydrographic and oceanographic surveys. As the Arctic winter began to close in, she worked her way eastward, until Hudson Strait was left astern and the coast of Labrador opened up on the starboard hand.

It was then that the *Labrador* sent the message reporting her intentions. In the same signal was a weather report which indicated the elements with which she had fought almost incessantly for five months had fired a full-fledged farewell salute to the ship. Said the report:

"Snow—wind 55 knots—whole gale—temperature 32."

It was a rugged finish to a rugged job.





## AFLOAT AND ASHORE

#### PACIFIC COMMAND

#### **HMCS Crescent**

The commissioning of HMCS Crescent, the first ship of the Royal Canadian Navy to undergo complete conversion to a destroyer escort in a Canadian Naval Dockyard, took place in HMC Dockyard, Esquimalt, on Monday, October 31.

Among the guests present were prominent civilians, senior officers of the RCN, the Canadian Army, the RCAF and RCMP.

In his address to the ship's company, Rear-Admiral H. F. Pullen, Flag Officer Pacific Coast, referred to "Crescent" as an old and honourable name in the Navy.

Referring to the ship's conversion, he said:

"All those who have been associated in this task, either in the planning or construction, are to be congratulated. They have done a first-class job, but we always expect the Dockyard to do just that, and we have never been let down.

"Canadian industry has also played a large part in this conversion, in the

"Just you wait here, Mabel, and Daddy'll bring you a cone." The ice cream concession, sponsored by the Stores Department, won first prize for the best booth at the Naden Children's Fair last fall. Civilian employees Carolene Boucock, Dana Fee and Carole Boucock reinforced the South Seas motif, which included a grass hut, palm trees and tropical flowers. The ice cream went fast. (E-33252)



manufacture and supply of materials and equipment," Admiral Pullen added. "In fact, the ship to this point represents a little bit of sea power, but the picture is not complete. Industry and dockyard have played their part; now it is up to the captain, officers and ship's company to take the ship and make her into an efficient fighting unit of Her Majesty's Canadian Fleet."

The *Crescent* is the thirteenth ship to be so named. The first *Crescent* was a ship of 140 tons with a complement of 75 men. Built in 1588, she assisted in the defeat of the Spanish Armada.

The *Crescent* of today was built by John Brown at Clydebank. Commissioned on September 10, 1945, she was designed as the leader of the 14th emergency flotilla and the class was to have borne her name. Only one other, the *Crusader*, of a projected program of eight was completed.

The Crescent is the senior ship of the Second Canadian Escort Squadron, which is composed of the following ships: the destroyer escorts Cayuga and Athabaskan; the frigates Stettler, Sussexvale, Ste. Therese, New Glasgow and Jonquiere. Recently returned from the Far East, the destroyer escort Sioux will join the squadron following her refit period.

The commanding officer of the new destroyer escort is Captain Paul D. Taylor, who is also Senior Officer of the Squadron.

#### **HMCS** Jonquiere

Something that happened away last May left three of the officers of the Jonquiere with the impression that they had perfect eyesight. As the summer wore to a close, this suspicion was confirmed.

Last May 24, the Jonquiere was at Nanaimo, B.C., to take part in holiday celebrations there. While a volunteer guard from the ship's company was marching in the parade, Lt.-Cdr. H. R. Tilley, commanding officer, Lieut. R. J. Paul, executive officer, and Lieut. (S) Fred Barrett, supply officer, were engaged in an exacting but not unpleasant task

They had been elected to act as judges for a beauty contest in which eight of Nanaimo's most charming young ladies were competing. Being officers and gentlemen they naturally chose a blonde and thereby Miss Glenda Sjoberg, an 18-year-old beauty, became Miss Nanaimo.

Confirmation of the officers' 20-20 vision came in September at the Pacific National Exhibition when Miss Nanaimo competed with 22 other entrants for the honour of being chosen Miss PNE. She won the title and the \$1,000 prize that went with the victory.—D.C.L.

#### HMCS Athabaskan

Following her visit to Victoria, in October, Her Royal Highness, the Princess Royal left for Vancouver in the *Athabaskan* on Friday, October 21.

She was accompanied by Rear-Admiral H. F. Pullen, Flag Officer Pacific Coast, who transferred his flag to the Athabaskan.

On her arrival at the Dockyard Her Royal Highness was received by the Royal Guard, with the Queen's Colour paraded, and a royal salute of 21 guns was fired by a battery on "A" jetty.

As the Princess Royal sailed out of the harbour in the *Athabaskan* there were salutes by bugles at Duntze Head, followed by the pipes of the Canadian Scottish Regiment. A 21-gun salute was fired by a second battery located at Black Rock.

En route to Vancouver, the Athabaskan was escorted by ships of the Second

The Ottawa naval division made its TV debut on October 12 when CBOT televised a typical training night. Shown is Captain R. P. White, commanding officer of Carleton, talking to Paul Baylis, CBOT announcer.



Canadian Escort Squadron, the Cayuga, New Glasgow, Jonquiere, Stettler and Ste. Therese.

The ships of the Second Canadian Minesweeping Squadron, the Comox, James Bay and Fortune, and those of the 12th Canadian Escort Squadron, the Brockville, Digby and Cordova, made a rendezvous with the Athabaskan and her escort, to man and cheer ship as Her Royal Highness passed.

#### **CNAV** Revelstoke

It is not always the big ships that bring recognition to the Royal Canadian Navy. In this case it was the little ship CNAV *Revelstoke*, Auxiliary Coastal Minesweeper, which earned the honour of being the first RCN vessel to pass through the locks in the massive Canso Causeway.

Through courtesy of the senior service, the Ground Observer Corps of the Royal Canadian Air Force has, for the past several years, been supplied with RCN auxiliary vessels so that corp personnel may visit otherwise inaccessible island lighthouses along the Atlantic coast. This is in line with the policy of the RCAF to enlist and instruct as chief observers, lighthouse keepers in a plan designed to obtain information on aircraft (friendly or otherwise) approaching or operating along the Atlantic seaboard. Many of these outposts cannot be reached by land; hence the RCN has stepped into the breach by furnishing sea transportation.

In the latest operation, the *Revelstoke* began at Jeddore Light near Halifax and continued eastward around Cape Breton Island to the Magdalenes and returned to base by way of the Strait of Canso, visiting en route 16 lighthouses, including the well-known and lonely Flint Island and Scatari, isolated St. Paul's and Bird Rock.

The Revelstoke, under command of Captain Randall Dominie, reported a most interesting and satisfying cruise, as did the corps representative who found it a novel experience to approach the lighthouses by way of the ship's small boat, manned by stalwart crew members, and to see at first hand how these hardy keepers of the lights live in their splendid isolation.

Perhaps the highlight of the trip occurred on the return voyage when the Revelstoke entered the Canso Strait and headed for the causeway. Chief Officer Joe Sanford in an interview stated: "The climax of 'Operation Lighthouse' came when for the first time we saw the causeway stretching in massive outline across the placid waters. As we approached, the great span over the locks slowly moved into position to permit our entry. The huge gates in the locks closed behind us at 1450 Saturday, October 1, and we emerged from the locks at 1500". Mr. Sanford elaborated by saying: "The move through the locks was carried



That big polar bear hug is something that little Paul Laing must have been practising for weeks before Daddy — AB Wilfred Laing, of Shannon Park — returned home in the Labrador from the Arctic. (HS-39422)

out with the utmost smoothness and efficiency."

"Another first for the little ships of the RCN," boasted a smiling member of the crew. A statement with which I am in hearty accord, being a "little ship" swab myself.—W.R.S.

#### TAS Training Centre

Recent changes in the TAS staff at Naden include Ldg. Sea. Ken Jeffries, drafted from Venture to the Training Centre as assistant to the Stores Officer. Ldg. Sea. Dan Cathcart and Ldg. Sea. James Nicholson are employed in the Detection Section as table operators, relieving Ldg. Sea. Charles Gowen and Ldg. Sea. William Goyman who have joined Crescent.

The TAS personnel of the *Crescent* formed the first pre-commissioning classes to be undertaken on the West Coast for some years. The classes were made up of 12 TD2s and 15 TD3s.

#### Mechanical Training Establishment

During September the Mechanical Training Establishment was moved from its old location above Central School in *Naden* to occupy the former quarters of Supply and Secretariat School, which is now known as the Mechanical Training Establishment Administration and Classrooms.

The move was made in less than half a day, with very little interruption of classes. The facilities are much better than previously, with all classrooms, model rooms, draughting room, theatre, etc., in the one building.



Captain and crew of CNAV Revelstoke. From left to right, front row: C. E. Backman, chief engineer; G. H. Welsh, second engineer; Randall Dominie, master; William Hampton, third engineer, and W. O. Sanford, chief officer. Back row: George Miles, cook; Leo Cook, quartermaster; H. L. Davidson, seaman; S. E. Tibert, seaman; Raymond Crook, oiler, and Herbert Gouchie, quartermaster.

The school has welcomed its new senior engineer, Lt.-Cdr. (E) L. R. Johns, who came from the Sioux and Lieut. (E) H. Young, who joined from the Athabaskan. At the same time it bade adieu to Lt.-Cdr. (E) J. R. Turner who has been appointed to Sorel for duties as engineer officer of the Assiniboine.

#### **Ordnance School**

After five years of faithful service as janitor in the *Naden* Ordnance School, "Scotty" Fortune is on the eve of retiring. All the garden hobbyists will miss "Scotty" for his wealth of garden hints and information. We all wish him well and the best of luck on his retirement.

There have been a few changes in the school recently: CPO Elwood Mac-Donald joined from the Sussexvale; Petty Officers A. E. Hogg, E. N. Spencer and C. A. Douglas left to join the Ontario, relieving PO1's L. T. Shore and Theodore Parham who joined the school. CPO Bert Nelson was drafted to Star, relieving CPO Frank Blosser who, with CPO Dick Lower and PO Eric Still, proceeded to Stadacona for a short course in the Electrical School before joining the St. Laurent.

We close with another old Ordnance maxim: "Never use force; get a large hammer."

#### ATLANTIC COMMAND

#### **HMCS Magnificent**

To complete the last half of the fall cruise of Task Group 301.1 the component units of the *Magnificent*, *Huron*, *Haida* and *Micmac* visited a number of European ports.

For four days in late October, while the three destroyers paid an informal visit to Amsterdam, the *Magnificent* lay to head and stern buoys in the busy part of the Rhine, Den Maas, which flows through the great Netherlands seaport of Rotterdam.

Sixty children from orphanages and a deaf institute were entertained on board the carrier the second day. Despite heavy rain, and with the carrier lying in the stream, over 300 invited guests attended the ship's official reception.

Daily tours to The Hague and Amsterdam for 40 members of the ship's company were arranged by Rotterdam Municipality. Other tours included visits to famous Dutch industries. Officers and men serving in the *Magnificent* will long remember the ship's visit to Rotterdam as a high point in the fall cruise, 1955.

As the Magnificent, with the Micmac in company, cleared the English Channel a short memorial service was held,



The longest day of the year for one ship's company was not June 21, but the day—November 7—when they transferred their allegiance from the Bangor coastal escort Minas to the Algerine coastal escort Sault Ste. Marie. Only a few hours after the Minas, which they had brought from Halifax, was paid off they commissioned the "Sault" at Esquimalt. Rear-Admiral H. F. Pullen, Flag Officer Pacific Coast, is seen addressing the ship's company during the commissioning ceremony. The ship, commanded by Lt.-Cdr. K. A. Stone, left a few days later for Halifax. (E-33639)

and a wreath dropped on the sea by Commodore E. P. Tisdall, near the position northwest of France where HMCS *Athabaskan* was sunk in action on April 29, 1944.

Warmer weather was welcomed as the ships proceeded to Gibraltar for a one-day operational visit before a month's flying operations and visits to ports in the Mediterranean. First of these was to Valencia, Spain, from November 4 to 8. The RCN carrier is reputed to be the largest ship ever berthed inside the harbour and considerable interest was taken in this first visit of Canadian warships to Valencia. Commodore Tisdall's annual inspection of the Magnificent was held during the ship's stay in Valencia.

The port of Genoa, Italy, welcomed the Canadian ships from November 11 to 15 adding to the convenience and the interest taken in the ships, berths were provided at the Stazioni Maritime, the principal liner piers of this famous seaport.

Led by Chaplain Louis Dougan, 34 Roman Catholic officers and men of the carrier group went by train to Rome for a one-day tour of the city. During this brief visit they had audience with His Holiness Pope Pius XII at his summer residence in Castelgandolfo.

The final informal visit was paid from November 18 to 22 to the French port of Marseille. The Magnificent and the First Canadian Destroyer Squadron then sailed to Halifax with a two-day operational visit to Gibraltar en route.

Early in the fall cruise the 1954 record of 1,523 deck-landings was easily defeated; the figure to November 27 was 1,912 with an objective of 2,000.

#### **HMCS New Liskeard**

New Liskeard personnel agree that they experienced a wild night during the storm encountered while the ship was en route from New London to Halifax, November 20. The anemometer registered over 60 knots while waves, when daylight broke, appeared to be higher than the bridge. Bridge eye level is 42 feet. Even the "old salts" on board admitted that it was a rough night.

Meanwhile, one New Liskeard hand with unshakable confidence in the seaworthiness of the ship saw humour in the idea of sending a message summarizing the situation: "Whaler and motor cutter battered and holed, port anchor carried away, radars broken down, echo sounders broken down, loran broken down, MF/DF broken down. Para 2 Help Help." It might be added that at the time such an unorthodox message would have caused no anxiety ashore as it was later discovered that the main radio aerial was broken during the night.

Although no extensive damage was sustained, the disorder below decks reached a climax in the forward mess, where flooding of the cable and the paint locker spread to the mess and combined with the pounding and pitching turned kits and lockers into a hopeless soggy mass, oozing battleship grey paint—and Admiral's annual inspection only a week away!

The storm relegated to the background accounts of the training cruise, of sailing up the Chesapeake and down the Delaware Rivers by way of the canal, of passing under a seven-milelong bridge and past the mouth of rivers with names like Susquehanna, of piping the famous atomic powered submarine Nautilus and of visits to Baltimore, Maryland, and New London, Connecticut. It also overshadowed accounts of sightseeing and of pre-Christmas shopping in the cities of Baltimore, Washington, Bridgeport, and New York.

On board the *New Liskeard* October will be remembered as the First Lieutenant's month. Lieut. John Huxtable and the buffer, PO Arthur Keddy, have been particularly conspicuous patrolling the upper deck and supervising the chipping, painting and "tiddleywork".

The increased tempo of activity on the part of the seaman branch was brought home to all with a clatter, for Number One obtained the use of two very efficient and very noisy mechanical scalers. These instruments of torture operate on the same principle as riveters; except that each scaler consists of three hammers. Two such paint scalers operating on the deck head equal six frenzied hammers, setting up reverbations rivalling a Shearwater Avenger looping-the-loop.

In all fairness, it must be admitted that the work achieved by these scalers is most gratifying, with old paint and rust effectively removed and with clean metal ready for a coat of red oxide paint. Nevertheless, the First Lieutenant discovered a new type of scaler. This fascinating invention is electrically instead of pneumatically driven and consists of pawls mounted on eccentrics. The "innards" revolve at 1,750 RPM. It seems that some seamen have strange delight in lingering with this madly flailing machine on the deck above the officers' cabins.

#### HMCS D'Iberville

Diverting and instructive events marked *D'Iberville's* observance of Navy Days. On the afternoons of October 8 and 9 over 5,000 guests visited the Navy's Quebec installation,

#### Ship Establishes Link with Arctic

The presentation, on September 15th, 1955, of a ship's crest and picture of HMCS Resolute to the officer-in-charge of the Resolute Ionosphere Station at Resolute Bay, N.W.T., marked the fulfilment of a wish on the part of the commanding officer, Lt.-Cdr. J. A. Panabaker, and the ship's company of the Resolute to establish a link between themselves and the few inhabitants of the Department of Transport Ionosphere Station located on the shores of the bay from which the ship is named.

It began on Christmas, 1954, when the Resolute sent a greeting to the RCMP constable at Resolute Bay in the hope that a connection might be established between the ship and what might be called its northern friends.



Later, in May, Sub.-Lt. Jens Gotthardt, RCN(R), from Carleton, the Ottawa naval division, joined the Resolute for training with the RCN before going up to the Arctic with the Department of Transport in June. When Sub.-Lt. Gotthardt had arrived at Resolute Bay, a ship's badge and a framed photograph of the Resolute was forwarded to him. On behalf of the captain, officers, and men of the Resolute, Louis Colpitts, officer-incharge of the Resolute Bay Ionosphere Station was presented with the picture and the badge, which now both adorn the wall of the lounge of the station's living quarters.

The picture shows Sub.-Lt. Gotthardt presenting the picture and the crest to Mr. Colpitts.

observing various phases of the naval training program. Exhibits mounted by Canadian Marconi, RCA Victor, Davie Shipbuilding, A. E. Watts and T. McAvity and Sons provided visitors with an informative display of the complicated equipment required for RCN activities.

From Shearwater, VU 32 aircraft thrilled thousands of Quebec residents on both days with precision flying over the historic city.

On Sunday, October 9, following church services in Holy Trinity and St. Jean Baptiste parishes, the entire personnel of *D'Iberville* participated in a colourful March Past. Commodore P. W. Earl, Naval Officer-in-Charge, Montreal Area, took the salute. The

ever - picturesque Sunset Ceremony closed each day's activities.

Radio Stations CJQC and CHRC as well as CFCM-TV and the city's French and English-language newspapers collaborated closely with *D'Iberville's* staff to keep the metropolitan area and outlying districts informed of the ceremonies and their significance.

Tragedy struck *D'Iberville's* personnel on the night of October 27 when PO Harry E. Dunning was fatally injured in an automobile crash on the Ste-Anne Boulevard near Quebec City.

Funeral services were held in St. Peter's Anglican Church, Quebec City on October 29 and were attended by the Commanding Officer and men of *D'Iberville*. The body was accompanied to Kensington for burial.

#### Communications Training Centre

Visual communicator "F" and radio communicator "E" Trade Group II qualifying courses commenced in the Communication Training Centre, HMCS Stadacona on October 11 and completed November 18.

CV "F" was composed of the following: Leading Seamen Roger G. Aggett, Andrew P. Barber, John W. Lilly, Donald J. Marsh, Edward McMillan, Henderson Muise, Leonard Schulthorpe, Donald A. Sullivan, Ronald J. Tate, Edward D. Wagner.

CR "E" included Leading Seaman William F. Beckinsale, Gordon E. Campbell, Allan E. Craydon, Gordon D. Evans, Herbert F. King, William Krilow, Alex J. Lacour, Ronald D. Mark, Owen McKellar, Donald F. Parsons, Garfield T. Sweet, Charles W. Titford, Roscoe E. Tofflemire, George Whittle.

#### Ordnance Training Centre

PO John Roche recently joined the staff of the Ordnance Training Centre at *Stadacona* from the *Algonquin* and is at present in charge of the ordnance workshop.

Chief Petty Officers John Underdown and William Martin recently arrived from an extensive gunnery course in the United Kingdom, the former soon to be drafted to Ottawa.

CPO Paul Wentzell just returned from 30 days' annual hunting leave and resumed his job of regulating chief of the training centre.

Thirteen chief and petty officers have completed a six-week electrical course in the Electrical School. They are Chief Petty Officers Frank Blosser, Richard Lower, William Martin, John Underdown, Stuart Duncan, William Wales and Petty Officers William Still, John Orr, Robert Hodgson, Russell White,

William Robertson, Gilbert Shaw, and George Tatton. Early in January, 1956, with the exception of Chief Petty Officers Underdown, Martin and Tatton, they were to join the St. Laurent for three months on-the-job training.

Armourer's Mates Class No. 14 has completed its course and members went on leave before joining East Coast ships.

Five Armourer's Mates have qualified for Trade Group Two. They are Able Seamen John Clarke, Philip Hollywood, Eric Jensen, Harry Park and Charles Burton.

The first five armourer apprentices arrived here from the *Quebec* where they had a fair spell of sea duty. They successfully completed Trade Group 3 trade tests and went on annual leave en route to *Naden*, to begin an armourers' course in the Ordnance School.

#### Navigation Direction School

RP2 "Y" class completed instruction during the month of November in the Navigation Direction School at Stadacona. Top honours in the class were taken by Ldg. Sea. Daniel Fowler, with Ldg. Sea. Ronald Bentley in second place. Others who successfully completed the the course were Ldg. Sea. Joseph Parent, Ldg. Sea. John Prince and Ldg. Sea. Owen Smith.

There are 18 officers, 79 men and three Wrens now undergoing instruction in the School. They comprise one JOTLC class, one RPI class, two RP2 classes, three RP3 classes, one Q1 class and one QM1 class.

#### **HMCS** Griffon

Late in August HMCS Moose was welcomed back to the Lakehead Naval Division after serving at GLTC for the summer. After her return the ship carried out a full program of Reserve training, together with search and rescue operations. On the week-end of October 7-10 she paid on operational visit to Duluth, Minnesota, to participate in the Duluth Fall Festival.

August was also notable for the Canadian Lakehead Exhibition which was held during the second week. *Griffon* had two entries consisting of an inside booth of a general nature and an outside booth upon which the model of the *St. Laurent* was displayed. The division worked in co-operation with the Area Recruiting Officer, Winnipeg, to make this the biggest and most successful Naval participation in the Lakehead Exhibition within recent years.

The Trafalgar Day Ball was held on October 21. This was an even greater success than in previous years and was attended by about 180 people.

On October 26 the first christening on board the division took place in the wardroom when the six-week-old daughter of the Staff Officer (Administration), Lieut. R. G. Guy, was christened Linda Margaret. Lieut. Guy's other child was christened in a similar ceremony in the wardroom of the *Portage* in September 1952.



An historic event in 1955 of special interest to the "fly-boys" was the completion of decklanding qualifications for the first time by a reserve air squadron. An informal tribute to the nine reserve pilots from York who qualified was the presentation of a large brass star with pilot's wings, inscribed "To the Amateurs—VC 920, from the Pros—HMCS Magnificent". Worn here by Lt.-Cdr. (P) Derek Tissington, commanding officer of the squadron, it is admired here by Captain A. H. G. Storrs, commanding officer of the "Maggie", and Cdr. V. J. Wilgress, Commander (Air). (MAG-6526)

#### HMCS York

Usually it takes a citizen-sailor three to four years in the RCN(R) to reach—and pass—Trade Group II qualifying examinations. In some cases, reservists have made the grade in two years, but this is an exception. York's VC 920 Squadron, however, thinks it has the all-time record for the RCN(R), and probably any other comparable reserve force.

In August No. 1 Reserve Observer's Mates Course had its "wings" parade at the RCN Air Station, Shearwater— just 13 months after commencing new entry training. Commander (Air), who presented their wings, said that, not only had they completed a difficult course under difficult circumstances, but they had also obtained the highest course average on record.

Of the five members of the course AB Frank Fish and Ord. Sea. Fred Rol and Ord. Sea. Harry Windsor obtained their wings outright. AB Vern Phillips and Ord. Sea. Gerry Rol passed all their examinations but will not be awarded their qualification until they have improved their morse reception.

In October VC 920, York's air squadron, started training six new "citizensailors" as pilots at Downsview airport. The addition swells the squadron's number of pilots to 18, and makes it the largest by far in the country.

The six new recruits are Midshipmen George Ewanchew, William Chambers, Barry Craig, Joseph Zys, Leonard Brooks and Alan Davenport. All are from Toronto and district.

On Saturday, October 29, 1955, York's brass band under the direction of Lieut. Robert Plunkett, performed at the annual military inspection of the Naval and Marine Air Reserve Squadrons, Niagara Falls, N.Y.

This was the first time that a musical group from *York* has been invited to perform at a military inspection in the United States.

The Trafalgar Ball, the highlight of the navy's social season, was one of the most colourful in years.

Arranged by the Naval Officers' Association of Canada (Toronto branch) and York, the dance celebrated the 150th anniversary of the Battle of Trafalgar.

York had not previously taken an active part in the organization of the dance, and this year's theme was the "Air Branch of the Royal Canadian Navy".

#### **HMCS Brunswicker**

Deep once more in its winter training program, *Brunswicker* is looking back on a pleasant and valuable series of visits of ships of the United States Navy. A total of 17 American vessels called at Saint John in the period from June 30 to October 7.

Entertainment for the visiting officers and men was arranged by the personnel of *Brunswicker* and included sight-seeing tours, smokers and receptions. Interest in the U.S. vessels and their personnel on the part of the citizens of the Saint John region was keen and many of our visitors left with high praise for the friendly treatment they received.

Of greatest importance, it is felt that the visits of the 17 ships have enabled officers and men to better know the United States Navy, and that they have also helped cement relations between our two navies.

#### HMCS Montcalm

Four officers of VC 923, the Naval Reserve Air Squadron at *Montcalm*, the Quebec City naval division, were presented with their "wings" by Capt.

Gordon C. Edwards, Director of Naval Aviation.

The four pilots, all trained under the reserve air training program are Sub-Lieutenants J. P. Jobin, Claude Laurin, Antoine Alain and Pierre Gagne. They are the first officers to be trained to wings standard in VC 923.

Sub-Lt. Jobin is an accountant and is a member of the Quebec Flying Club, while Sub-Lt. Laurin is an instructor at the Quebec Flying Club. Sub-Lts. Gagne and Alain are pilots with a Quebec airline, Quebecair.

Lieut. (P) Jacques Cote, RCN, is the resident instructor of VC 923 which operates from Ancienne Lorette Airport. The squadron was organized in 1954 and is equipped with three Harvards. It is one of five Naval Squadrons in Canada. The others are at Toronto, Kingston, Calgary and Victoria.

#### Queen Charlotte

The Chief and Petty Officers' Mess of *Queen Charlotte* held its fourth annual banquet at the Parkdale Hall on November 17.

Mess president CPO Ron Wilson introduced the honoured guests, Lt.-Cdr. J. Kenny, Lieut. L. G. Douglas and Lieut. K. A. McKenzie. The banquet was followed by an enjoyable dance.

A ship's company dance was held at Queen Charlotte on November 25.

The following new entries have been recently attested into the RCN (R) at Queen Charlotte: Ord. Sea. Barry MacDonald, Gary Aylward, George Bruce, Wm. McKenna and Ord. Wren G. Henderson.

#### **HMCS Hunter**

On Friday, November 11, Rear-Admiral K. F. Adams, Flag Officer Naval Divisions, visited Windsor. His itinerary for the day included a press conference at *Hunter*; luncheon at the Ford Motor Company; a stand-to at the club rooms of Branch 94 Canadian Legion; a reception at the Prince Edward Hotel and dinner at the Branch 94 club rooms, at which he was guest speaker.

In his address to the Legion, Rear-Admiral Adams traced the history of sea war through the centuries up to the present time. He underlined the importance of a navy in the atomic age in being able to move a huge base of operations swiftly from one continent to another. A ground base stays in one place and the enemy knows where to find and destroy it. The modern task force, with carriers and guided missile ships, is highly mobile. Rear-

Admiral Adams spoke of the role of the RCN ships as sub-killers.

"Control of the sea means clear trade routes to the world and trade is the nation's life blood," he said.

Head table guests included, Nelson Meeks, American Consul at Windsor; Don F. Brown, MP for Essex West; William Griesinger, Minister of Public Works for Ontario; Mayor Michael J. Patrick, Windsor; Cdr. W. G. Curry, commanding officer, HMCS Hunter and Rear-Admiral Walter Hose, RCN (Ret'd).



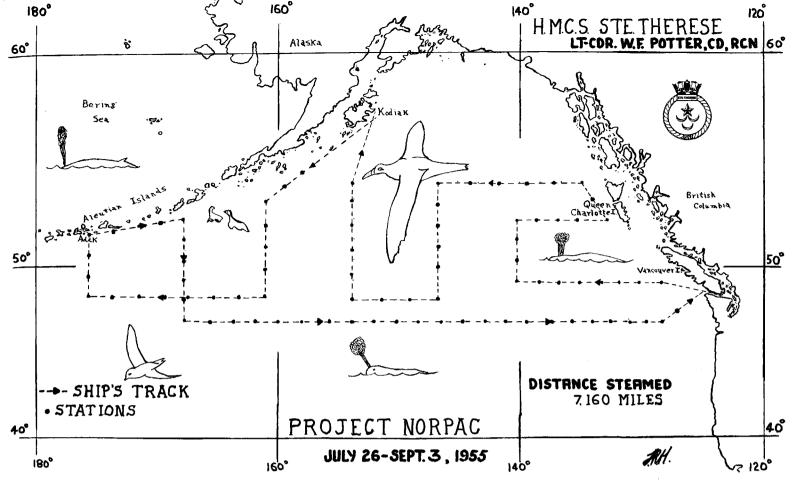
Ord. Sea. G. R. Muenzer, of HMCS York, is awarded a bos'n's call by his commanding officer, Captain L. D. Stupart. Five Toronto reservists received the award in recognition of high marks received on naval training at the Great Lakes Training Centre, last summer. Other recipients were Ordinary Seamen F. R. Darby, A. R. Booth, J. R. Zys and D. R. Kehoe. (Photo by Gilbert A. Milne and Co.)



AB J. Richard Grenier, of HMCS D'Iberville, is shown chatting with His Excellency the Governor General following his investiture with the British Empire Medal. AB Grenier was awarded the BEM for his bravery in rescuing a 12-year-old boy who had become stranded on a cliff, 150 feet from the ground. (ML-3509)



The President's Trophy, awarded annually by the Navy League of Canada to the Sea Cadet with the best record of leadership was presented on October 27 to Sea Cadet PO Ronald Arthur DeForest, of RCSCC Ajax, Guelph, Ont., at the League's annual dinner in Toronto. From left to right are Sea Cadet DeForest, J. G. Dunlop, president of the Ontario division of the League, C. K. McLeod, national president, and Vice-Admiral E. R. Mainguy, Chief of the Naval Staff. Runner-up for the trophy was Sea Cadet PO F. Wheeler, of RCSCC Terra Nova, St. John's, Nfld. (Photo courtesy Globe and Mail, Toronto.)



## IN SEARCH OF THE OCEAN'S SECRETS

Ste. Therese Steamed 7,160 Miles on Survey

NOWLEDGE of land and sea throughout most of man's history has been acquired by a kind of guerrilla warfare, with bits of information snatched here and there and eventually brought together in more or less organized form.

Now humanity is witnessing a mass attack on the frontiers of knowledge. One such assault, during the Second World War, unlocked the secret of the atom for good or ill. During 1956, in anticipation of "The Geophysical Year", (1957-58), many nations will make a combined attack on the mystery of the Antarctic, by land, sea and air, to determine whether it is more than the waste of snow and ice it has always seemed to be.

A similar onslaught — though on a smaller scale—was made on some of the problems of the North Pacific last summer and a Royal Canadian Navy frigate, the *Ste. Therese*, was called on to participate in this.

The Ste. Therese was one of more than 20 Japanese, American and Canadian ships operating north of the Tropic of Cancer in the joint synoptic oceanographic survey operation "NORPAC". She sailed from Esquimalt in late July

and returned in early September. During this period selected areas were surveyed simultaneously by the various ships. The exchange of data arising from the survey will give a broad picture of the current systems of the North Pacific as well as other important information on salinity, temperatures and sea life.

Three ships of the California Co-Operative Oceanic Fisheries Investigations, one from the University of Washington, one from the Pacific Oceanic Fishery Investigations (U.S.A.), and 15 to 20 from Japanese agencies undertook studies in the North Pacific. These circumstances went a long way toward giving oceanographers hope of seeing someday fulfilled the dreamed-of, but hitherto unattainable result — a truly synoptic hydrographic study of the entire North Pacific.

The information gained about ocean currents over such a large area has a very definite military application in mine warfare in times of war to say nothing of its value to shipping and fisheries.

A scientific party of seven from the Pacific Oceanographic Group (Fisheries Research Board) at Nanaimo joined the Ste. Therese on July 25 for the project. The senior scientist was A. J. Dodimead, who directed, co-ordinated observations and provided liaison with the captain, Lt.-Cdr. W. F. Potter.

Project NORPAC required 7,160 miles of steaming, with supplies being obtained at Kodiak and Adak in Alaska during the operation.

Observations (see diagram) were made at 85 stations with two short 90 degrees course alterations between each station to measure currents (by an instrument known as the Geomagnetic Electro-Kinetograph, more familiarly referred to as the GEK), and bathythermograph readings hourly as required.

At each station 17 water samples were taken at varying depths, from zero to 1,200 meters (660 fathoms). These were analyzed on board for temperature, dissolved oxygen, phosphate, and pH (a term having to do with ionization) by the scientists of the P.O.G. Temporary, but amazing, laboratory facilities were fitted for this purpose. Salinity analyses, which required very accurate measurements, were worked out later ashore at the Nanaimo Pacific Oceanographic Station.

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Samples of sea life (the ship's company soon learned to call them "plankton") were taken at depths between 0 to 400 meters (220 fathoms) in specially constructed nylon cone-shaped nets. Both water and plankton samples (each haul done separately) were obtained by means of a 100-pound weight attached to a 5/32" galvanized wire from a motorized winch drum that temporarily replaced a Boffin mounting. Water bottles and plankton nets secured on the thin wire rope were lowered to the desired depths, and by sliding a brass weight down the wire, a tripping mechanism trapped the sample.

The Kelvin sounding machine was used for bathythermograph readings at a depth of 200 meters (110 fathoms).

The foregoing activities had a series of unexpected repercussions on officers and men.

The first came as the Ste. Therese slipped and sailed from Esquimalt, when the First Lieutenant was beseiged with requests to "discontinue shaving". Youth proved an insurmountable handicap in some cases, it was evident when the beards came to judgment. The reduction in fresh water consumption was looked upon by the Engineer Officer as a blessing.

During the off-watch hours, the ship became almost a hobby shop with copper metal work, leather work, model ships, model aircraft and all types of handicraft underway. The ship's canteen did a lively business in ice cream bars, selling 2,400 of them in the short period of twenty days.

As the project advanced, new words, and new uses for old words became everyday terms: plankton, water analysis, hauls, dips, GEK, oceanographic stations, etc. It was just added evidence of the flexibility of the naval mind.

The officer-of-the-watch was usually busy taking celestial observations whenever weather permitted, mastering the art of handling the ship on station in varying states of weather to keep the winch wire clear and upright, completing six-hourly meteorological messages, recording station data and maintaining bird, whale and porpoise logs.

Weather charts were prepared twice daily and the forecasts of local areas proved very useful.

Some of the statistics were: Total distance steamed, 7,160 miles; (total distance steamed since the ship's commissioning in late January, 21,600 miles); average speed, 11.5 knots; total periods sunny, 13 hours; total periods cloudy, 32 days 16 hours; average wind speed, 12 knots; station observations, 85; phosphate, oxygen, pH analyses, 1,400; bathythermograph readings, 267; GEK observations, 30; water samples, 5,200; hours spent on station, 129; plankton samples, 450; weather observations, 465; weather reports sent, 188.

On returning to Esquimalt, it was generally accepted that oceanography is well on its way to explaining the sea and unfolding its mysteries. However, for the naval mind, it is still true to say with Lord Jellicoe that "the sea is our life", scientifically and otherwise.



A. J. Dodimead, senior scientist in the oceanographic survey which was carried out by the Ste. Therese, is seen here checking data compiled from observations. Project Norpac required 7,160 miles of steaming, with stores and fuel replenished at Kodiak and Adak during the operation.

#### **HMCS GLOUCESTER**



#### SHIP'S BADGE DERIVATION

HMCS Gloucester is located in Gloucester Township, Carleton County, Ontario, not far from Ottawa. The township was named in 1798 for William Frederick, Duke of Gloucester, a nephew of George II who bore the Arms of the Royal Family with his personal label. Royal Arms may not be used except by special grant of Her Majesty, therefore one must look elsewhere for a suitable motif for the badge of Gloucester.

Gloucestershire in England was one of the earliest, if not the first of English communities to receive a grant of arms, and these are recorded as being three red chevrons and ten red discs or roundels, known in heraldry as "torteaux" upon a field of gold. As the Duke of Gloucester took his title from the shire, it would seem in order to go to the Arms of Gloucestershire for a badge device. To this end one chevron has been taken, and this carries an added feature in the fact that the term "chevron" is derived from the French word for rafter, and the device is shown in the same shape as a gable rafter. As the Radio Station is "housed" this device is doubly appropriate. Then by placing a single roundel upon the peak of the chevron we not only again draw from the Arms of Gloucestershire but set up the basis for the telegraphists badge" -simply by adding four lightning flashes issuing from the roundel.

While it would be quite correct to place these devices upon a field of gold as they are in original arms, a background of white or "argent" has been used to suggest that this particular "Gloucester" is in Canada, the colours of Canada being white and red.

#### HERALDIC DESCRIPTION

Argent, a chevron gules upon the summit of which a torteau of the same from which issue four lightning flashes azure, two to the dexter and two to the sinister.

Ship's Colours: Red and white.

## THE NAVY PLAYS

#### Navy Squad Has Best Season

Navy's squad in the Victoria Canadian Intermediate Football Union rounded out its best season to date by trouncing Kamloops Kougars 13-0 in a Remembrance Day exhibition game at Kamloops, B.C.

Under the coaching of Lieut. (E) Frank Hindle, the team wound up in possession of the Victoria League Championship. It was only by the narrowest of margins that Navy lost the sudden-death playoff for the British Columbia Intermediate title.

After marching in the November 11 parade at Kamloops, the Navy squad took the locals in a game played in below-zero weather.

In regular season play, Navy lost only one game, an opener against Victoria Vampires who edged the sailors 7-6.

Navy, however, was undefeated in all subsequent games. This included tieing the powerful Oak Bay squad twice, 5-5

and 12-12, and beating them once, 16-6. In remaining games against Vampires, Navy took both, 16-12 and 43-0.

Navy's team this year was affected throughout not only by the usual injuries but because several key men served in ships at sea frequently on operational commitments. The RCN team, the lightest in the local league, played a fast and wide-open type of football.

#### Ottawa Sailors Hold 21 Regattas

Ottawa Squadron, RCN Sailing Association, held 21 regattas, one of them for ladies, during the 1955 season—May 15 to November 5.

Three regattas with the Civil Service Recreation Association Yacht Club resulted in the RCNSA sailors losing the Dow's Lake Challenge Trophy for the second time.

Lt.-Cdr. Tom Appleton, top skipper of the season, was winner of the perpetual trophy. Other winners included—Mrs. Beverly Hall, Ladies' Regatta; Ord. Lt.-Cdr. C. E. Brown, first series; Lt.-Cdr. A. A. Turner, second series; David Quarterman, third and fourth series, and Lieut. (S) Robin Leckie, Frosbite series. The top skippers were computed from highest points gained in each four regatta series.

Mr. Quarterman was top skipper, also, of a two-day racing program on the Ottawa River. The only spill of the season occurred in October 30 races when 34 mph winds sweeping over Dow's "Ditch" swamped one of the squadron's Admiralty class dinghies. The crew had no ill effects.

#### Cdr. J. Korning Heads Sailing Group

Cdr. Jack Korning has been appointed chairman of the RCN Sailing Association, succeeding Captain A. B. F. Fraser-Harris who is attending the National Defence College, Kingston.

Cdr. Korning, Copenhagen-born, entered the RCNR from the British Mer-



New champs of the Victoria Canadian Intermediate Football Union are navy players. Front row, left to right: AB William Lyons, Ldg. Sea. John Kingston, AB Edward Amos, Lt.-Cdr. R. P. Mylrea, Lieut. (E) Frank Hindle, coach, Cd. Commissary Officer A. E. Saxby, Ldg. Sea. Gerald Stephens, AB Otto "Bud" Brown, PO Robert Aitken. Centre row: CPO Robert Miller, trainer; Ldg. Sea. "Red" Larsen, AB William Morely, CPO Joseph Hornesty, Ldg. Sea. Archie Langston, AB Barry Moreland, Ldg. Sea. Ernie Lee, Ldg. Sea. James Tracy, PO James Beech, AB James Clark, Ord. Sea. Robert Parsons. Back row: AB Norman Bucsis, trainer, AB John Bowers, Ldg. Sea. Charles Thompson, Ord. Sea. Gerald Porter, Ldg. Sea. Robert Young, Ldg. Sea. Paul Skinulis, Ord. Sea. Walter King, Ldg. Sea. Doug Hill, Ord. Sea. George Kelly, AB M. Wright, equipment manager. Absent teammates are Lieut. Mel Wilson, PO Albert Reeves, PO Morley McAllister, Ldg. Sea. Roy Negrich, Ldg. Sea. Thomas Weale, AB Thomas Humphries, Ord. Sea. W. T. Schick and AB Peter Cook. (E-33621)

chant Service, transferring in 1945 to the regular force. He is Naval Co-ordinator on the staff of the Vice-Chief of Naval Staff.

#### Navy Team Keeps Tri-Service Trophies

No. 1 team, representing the Gunnery School in Halifax, retained both the Purdy Cup and Laurie Bugle during the tri-service rifle and Bren gun competition in Halifax last October.

The team was officially congratulated by the Flag Officer Atlantic Coast in a message which also praised sharpshooters of HMS/M *Ambush* who were a "very close runner up" in the Purdy Cup match.

#### Sports Program Switches to Gym

Sports around the Ordnance School changed from outdoor activities to muscle-stretching indoors at *Naden*'s new gym.

The School split into two sections, comprising teams from East and West coasts, for Monday afternoon sports sessions. Badminton, volleyball, bowling and swimming are the main features.

During the hunting season on the island, several from the School went after deer with good results. CPO Chester "Davy Crockett" Padgett spent two days in the bush and got thoroughly soaked trying to come in gunsight of an elk without making contact.

#### Brunswicker Goes In for Hockey

Hockey, for the first time in several years, is again playing an important part in *Brunswicker's* sports program. The naval division has a puck squad competing in the Saint John, N.B. Commercial League.

In addition to regular training, there have been several recreational events, one of the most popular being the weekly small bore rifle shoot.

#### Italian Hockey Club Defeats RCN

In an exhibition game played at Torino, Italy, in November, the fast-skating Fiat hockey club defeated the RCN 7-4 in three periods of exciting hockey.

The Torino team, from the world-famous automobile and engineering firm, had 12 Italians and two Canadians, while the RCN team came from the Magnificent.

One-time American Hockey League player Harold Schooley, formerly of Hamilton, Ont., was the big star of the evening, scoring 4 of the 7 goals for the Fiat Club. Italian playing coach Bob Bragagnolo, a former Ottawan, was outstanding on defence for the winners.

PO Bernie St. John led the Canadian team with two goals and PO Danny McCowell came up with sensational saves between the Canadian pipes.

#### Valencians Win At Soccer 6-1

The Lavante Soccer Club of Valencia, Spain, handed out a 6-1 drubbing to the RCN in an exhibition soccer game in November. The RCN team was composed of players from the ships of Task Group 301.1 namely the Magnificent, Huron, Micmac and Haida.

#### Writers Take Softball Title

Naden Writers, whose sports prowess seems out of character with their desk jobs, beat the Jonquiere team to cop the Pacific Command Softball Championships and HMS Dominion trophy.

The Ontario, Athabaskan, Cayuga, Stettler, Sussexvale, Ste. Therese, Jonquiere and Reserve Training Squadron fielded teams for the straight elimination playoffs. Naden and the Stettler had the best battle of the semi-finals.

The Naden scribes accumulated 114 points over the summer season to win the 1955 Summer Cock o' the Barracks.



A golfer for only a year, AB Ben Aylesworth, left, nevertheless, won the Corby's and Wiser's golf trophy in the RCN Golf Association's annual competition on the West Coast, with a low net of 197 for 54 holes, played over three courses, Colwood, Uplands and Gorge Vale. Shown with him is CPO Tommy Rayson, secretary of the RCNGA. Both serve on the staff of the Flag Officer Pacific Coast. (E-33496)

#### Regatta Held In Bahamas

During the *Quebec's* fall Caribbean training cruise, boatwork, sports and recreation highlighted the cruiser's visit to the Bahamas. Prevailing northeasterly winds at Great Stirrup Cay caused the *Quebec* to shift to the more protec-

ted anchorage at South West Bay, New Providence Island.

The four-day stay there featured an interpart regatta held on a Sunday with the final race being pulled the next morning before departure. The engineroom department made a clean sweep with OSEMs taking the event for ordinary seamen under training and engineroom beating wardroom by half a length in the "open." Lower decks were cleared afterwards for presentation of trophies by the captain.

The ship's company annual musketry course covered three successive days at the police range in Nassau, 90 officers and men taking part.

During a sports excursion to Nassau, the baseball nine from the Ahepansis Club drubbed *Quebec* players 8-1 while the ship's soccer eleven lost 4-1 after a spirited game.

On the weekend, two beach parties were held on ideal white sands close to the anchorage, 150 men per outing. All enjoyed swimming and water sports in the crystal-clear water. Several, in fact tried underwater spear fishing.

#### MTE Busy in Interpart Sport

Interpart teams of the Mechanical Training Establishment, *Naden*, have taken an active part in season play. The hockey squad won two games by scores of 13-0 and 4-2, and lost one 6-1 at the outset.

MTE is not only represented on the RCN Curling Club executive by CPO Edward Shepperd as secretary-treasurer, but several rinks of MTE personnel are active in this winter sport, off to a good start under guidance of its executive. The new president is Lieut. (E) G. A. Dufour.

#### Hoop Tilt Won in Three Straight Games

A powerful Navy team won the annual Tri-Service Basketball tourney at *Naden* in three straight games during November's last weekend.

Ord. Sea. Leroy Bond, from the Medical Branch School scored an 84-point total in the three game finals to lead his mates to victory over RCAF, Comox; RSME, Chilliwack, and the Queen's Own Rifles.

QOR finished second, with two out of three wins, and Comox, took third place with one victory against a pair of losses.

High-scorer Bond, averaging close to 30 points a game in the series, had as runner-up team-mate AB Gerry E. Vowles, who tallied a 54.

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## LOWER DECK PROMOTIONS

list is arranged in alphabetical order, with each man's new rating, branch and trade group shown opposite his name.
ALLAN, Murray H. LSEM1 AMOS, William L. C2CS4 ARROWSMITH, Lawrence. LSQM1 ARSENAULT, Joseph O. LSQR1 ARTHURS, Donald V. LSRP1 ATKINSON, Eric G. P2AR2
BABCOCK, William R. LSCR1 BATE, Geoffrey K. C1VI4 BEATTY, Douglas E. LSEM1 BEAULIEU, Paul LSVS1 BECK, Wilfred M. P2RP2 BELLIVEAU, Reginald T. LSEM1 BEST, Bernard A. C1RI4 BINGER, David W. PISH4 BLACK, William R. LSEM1 BLACK, William R. LSEM1 BLANCHET, Jean-Marc J. LSEM1 BORSK, Herbert A. LSAR1 BOUCHER, Auguste J. LSEM1 BOUFFARD, Claude J. P2EM2 BOVEY, William I. C2EA4 BRACE, York. P2AW2 BRAGG, Robert J. LSQM2 BROWN, Charles E. C2CR3 BRUCE, David W. C2CR3 BRUCE, David W. C2CR3 BUDESHEIM, Roy A. C2PC4 BURKE, Brian E. P2AO3 BURTON, Gerald T. C2CS4 BYRNE, Frederick B. P2AA2
CALLARY, John O. P2CR2 CARPENTER, Stanley J. P2RS3 CARR, Gordon V. C2CR3 CARROLL, Archibald L. LSEM1 CHAFE, Cyril A. P2CV2 CHAFE, Ronald J. LSCS2 CHURCHILL, Earl H. LSCR1 CLAMP, Douglas F. LSEM1 CLEARY, Ernest W. P2AR2 CLEVELAND, Gordon R. LSRP1 COOPER, Gordon O. P1CS3 CORNISH, Dorne R. LSCR1 CRACKLOW, Daniel L. P2BD3 CRAWFORD, John A. LSEM1 CROSTHWAITE, Lawrence LSEM1 CROWE, Richard G. LSBD2 CUMMINGS, William G. P1CS3 CURTIS, John. LSCK1
DAWSON, Gerald A. P2CR2 DAWSON, Kenneth W. LSAF1 DEVENNEY, Thomas G. P1ER4 DINN, James E. LSVS1 DIONNE, Roland R. LSAM2 DONOVAN, Cornelius J. LSBD2 DOYLE, Daniel J. P2QM2 DUNHAM, Charles E. LSAF1 DUNHAM, Douglas A. P2AO2 DUNN, Paul C. P2AR3
FARION, Raymond A
GARRETT, Howard R. LSCS2 GAY, Charles A. LSAF1 GEARY, John H. LSAA1 GILBERT, Henry H. P2EM2 GOODLIN, Harry LSCS2 GOODWIN, Alan R. P2CR2 GORMAN, John A. LSEM1 GORRELL, James R. LSTD1

Following is a further list of promotions of men on the lower deck. The

GRAHAM, Thomas BGRAY, Charles A	.P2EA3 .LSEM1
HALDANE, Frederick EHAMILTON, Donald W	PIEI4
HAMILTON Robert A	LSPW1
HANSEN, Willy HARRIS, John R HAVELOCK, Roland G	LSEM1 P2BD3
HERRING, Raymond D HIGGINS, Stephen I	. LSAA1
HILES Melvin A	PIEK4
HILL, James E HINES, Raymond W HODGE, Frederick HOTT, Ronald L	LSCS2 LSAR1
HOULE, John E HOULE, Reynold J.	.LSEM1
HOWELL Frank R	PZEMIZ
HUFF, Warren B. HUNT, Murray J HUTTON, Walter H	.P2CV2 .LSTD1
IGOE, John M	
JAMES, Harold C JANES, Ralph G	LSEM1
IOHNSON, Richard L	C1VI4
JORDAN, Donald A JUDGE, William E	LSEM1
KAYE, Ronald L	. P2EM2
KENNEDY, Donald AKING, William A	LSRP1
KIRTON, Irwin	LSAA1
KOSAKOWSKY, Louis L KOWALSKY, Karl J	P2EM2 LSAA1
KRUGER, Michael	P1CR2
LAIDLAW, James A LAURIE, Laughlin C	P1CS3
LAURIE, Laughlin CLAURIE, William BLEAFLOOR, Frederick A	P1CS3 LSAR1 P1CR2
LAURIE, Laughlin CLAURIE, William BLEAFLOOR, Frederick ALEPAGE, Gilles J	P1CS3 LSAR1 P1CR2 LSQM1
LAURIE, Laughlin CLAURIE, William BLEAFLOOR, Frederick ALEPAGE, Gilles JLEPPARD, Edward A.LEWIS, Charles	P1CS3 LSAR1 P1CR2 LSQM1 P1CR2 C2QI4
LAURIE, Laughlin C.  LAURIE, William B.  LEAFLOOR, Frederick A.  LEPAGE, Gilles J.  LEPPARD, Edward A.  LEWIS, Charles.  LEWIS, Philip J.  LINFORD, Lorne K.	P1CS3 LSAR1 P1CR2 LSQM1 P1CR2 C2QI4 P1CR2 LSEF3
LAURIE, Laughlin C.  LAURIE, William B.  LEAFLOOR, Frederick A.  LEPAGE, Gilles J.  LEPPARD, Edward A.  LEWIS, Charles  LEWIS, Philip J.  LINFORD, Lorne K.  MacDONALD, Murray H.	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2QI4 . P1CR2 . LSEF3
LAURIE, Laughlin C.  LAURIE, William B.  LEAFLOOR, Frederick A.  LEPAGE, Gilles J.  LEPPARD, Edward A.  LEWIS, Charles.  LEWIS, Philip J.  LINFORD, Lorne K.  MacDONALD, Murray H.  MacLEOD, Kenneth R.  McBURNEY, Richard C.	P1CS3 LSAR1 P1CR2 LSQM1 P1CR2 C2QI4 P1CR2 LSEF3 LSOM2 P2AA2
LAURIE, Laughlin C. LAURIE, William B LEAFLOOR, Frederick A. LEPAGE, Gilles J LEPPARD, Edward A. LEWIS, Charles LEWIS, Philip J LINFORD, Lorne K.  MacDONALD, Murray H MacLEOD, Kenneth R McBURNEY, Richard C. McCOLM, Clayton W McCARTHY, Augustine J	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2Q14 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . P1PC3 . LSEM1
LAURIE, Laughlin C. LAURIE, William B LEAFLOOR, Frederick A. LEPAGE, Gilles J LEPPARD, Edward A. LEWIS, Charles LEWIS, Philip J LINFORD, Lorne K. MacDONALD, Murray H MacLEOD, Kenneth R McBURNEY, Richard C. McCOLM, Clayton W McCARTHY, Augustine J McCLELLAND, James S McCLURE, Patrick J	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2QI4 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . P1PC3 . LSEM1 . LSPR2 . LSPR2
LAURIE, Laughlin C. LAURIE, William B. LEAFLOOR, Frederick A. LEPAGE, Gilles J. LEPPARD, Edward A. LEWIS, Charles. LEWIS, Philip J. LINFORD, Lorne K. MacDONALD, Murray H. MacLEOD, Kenneth R. McBURNEY, Richard C. McCOLM, Clayton W. McCARTHY, Augustine J. McCLELLAND, James S. McCLURE, Patrick J. McCOWELL, Daniel L. McDONNELL, George W.	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2QI4 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . P1CS3 . LSEM1 . LSPR2 . LSPR2 . LSPR2 . LSVS2
LAURIE, Laughlin C.  LAURIE, William B.  LEAFLOOR, Frederick A.  LEPAGE, Gilles J.  LEPPARD, Edward A.  LEWIS, Charles  LEWIS, Philip J.  LINFORD, Lorne K.  MacDONALD, Murray H.  MacLEOD, Kenneth R.  McBURNEY, Richard C.  McCOLM, Clayton W.  McCARTHY, Augustine J.  McCLELLAND, James S.  McCLURE, Patrick J.  McCOWELL, Daniel L.  McDONNELL, George W.  McGUIRE, Morley J.  McHARG, Roger N.	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2QI4 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . P1PC3 . LSEM1 . LSPR2 . LSPR2 . LSAR1 . LSAR1 . LSQM1 . LSAF1
LAURIE, Laughlin C. LAURIE, William B LEAFLOOR, Frederick A. LEPAGE, Gilles J LEPPARD, Edward A. LEWIS, Charles LEWIS, Philip J LINFORD, Lorne K.  MacDONALD, Murray H MacLEOD, Kenneth R McBURNEY, Richard C McCOLM, Clayton W McCARTHY, Augustine J McCLELLAND, James S McCLURE, Patrick J McCOWELL, Daniel L McDONNELL, George W McGUIRE, Morley J McHARG, Roger N McINTOSH, Ronald C McKENNA, James J	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 C2QI4 . P1CR2 . LSEF3 LSOM2 . P2AA2 . P1CS3 . P1PC3 . LSEM1 . LSPR2 . LSVS2 . P1AO3 . LSAR1 . LSAR1 . LSAR1 . LSAF1 . LSCV1 . LSRC2
LAURIE, Laughlin C. LAURIE, William B LEAFLOOR, Frederick A. LEPAGE, Gilles J LEPPARD, Edward A LEWIS, Charles LEWIS, Philip J LINFORD, Lorne K MacDONALD, Murray H MacLEOD, Kenneth R McBURNEY, Richard C McCOLM, Clayton W McCARTHY, Augustine J McCLELLAND, James S McCLURE, Patrick J McCOWELL, Daniel L McDONNELL, George W McGUIRE, Morley J McHARG, Roger N McINTOSH, Ronald C McKENNA, James J McKETTERICK, George M McKETTERICK, George M McLACHLAN, Andrew A	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2QI4 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . P1PC3 . LSEM1 . LSPR2 . LSVS2 . P1AO3 . LSAR1 . LSQM1 . LSAF1 . LSCV1 . LSRC2 . LSQR1 . LSQR1
LAURIE, Laughlin C. LAURIE, William B. LEAFLOOR, Frederick A. LEPAGE, Gilles J. LEPPARD, Edward A. LEWIS, Charles LEWIS, Philip J. LINFORD, Lorne K.  MacDONALD, Murray H. MacLEOD, Kenneth R. McBURNEY, Richard C. McCOLM, Clayton W. McCARTHY, Augustine J. McCLELLAND, James S. McCLURE, Patrick J. McCOWELL, Daniel L. McDONNELL, George W. McGUIRE, Morley J. McHARG, Roger N. McINTOSH, Ronald C. McKENNA, James J. McKETTERICK, George M. McLACHLAN, Andrew A. McLEOD, Myrvin K.	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2QI4 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . P1PC3 . LSEM1 . LSPR2 . LSVS2 . P1AO3 . LSAR1 . LSQM1 . LSAF1 . LSQV1 . LSQR1 . LSQR1 . LSQR1 . LSQR1 . LSQM1
LAURIE, Laughlin C. LAURIE, William B. LEAFLOOR, Frederick A. LEPAGE, Gilles J. LEPPARD, Edward A. LEWIS, Charles. LEWIS, Philip J. LINFORD, Lorne K.  MacDONALD, Murray H. MacLEOD, Kenneth R. McBURNEY, Richard C. McCOLM, Clayton W. McCARTHY, Augustine J. McCLELLAND, James S. McCLURE, Patrick J. McCOWELL, Daniel L. McDONNELL, George W. McGUIRE, Morley J. McHARG, Roger N. McINTOSH, Ronald C. McKENNA, James J. McKETTERICK, George M. McLACHLAN, Andrew A. McLEOD, Myrvin K. McNAUGHTON, James C. MARSH, Bruce M.	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2QI4 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . P1CS3 . LSEM1 . LSPR2 . LSVS2 . P1AO3 . LSAR1 . LSQM1 . LSAF1 . LSQM1
LAURIE, Laughlin C. LAURIE, William B LEAFLOOR, Frederick A. LEPAGE, Gilles J LEPPARD, Edward A. LEWIS, Charles LEWIS, Philip J LINFORD, Lorne K.  MacDONALD, Murray H MacLEOD, Kenneth R McBURNEY, Richard C McCOLM, Clayton W McCARTHY, Augustine J McCLELLAND, James S McCLURE, Patrick J McCOWELL, Daniel L McDONNELL, George W McGUIRE, Morley J McHARG, Roger N McINTOSH, Ronald C McKENNA, James J McKETTERICK, George M McLACHLAN, Andrew A McLOD, Myrvin K McNAUGHTON, James C MARSH, Bruce M MARSH, Ronald T MARTIN, Paul	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . LSQM2 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . LSEM1 . LSPR2 . LSVS2 . P1AO3 . LSAR1 . LSAR1 . LSQM1 . LSAF1 . LSQM1 . LSAR1
LAURIE, Laughlin C. LAURIE, William B LEAFLOOR, Frederick A. LEPAGE, Gilles J LEPPARD, Edward A LEWIS, Charles LEWIS, Charles LEWIS, Philip J LINFORD, Lorne K MacDONALD, Murray H MacLEOD, Kenneth R McBURNEY, Richard C McCOLM, Clayton W McCARTHY, Augustine J McCLELLAND, James S McCLURE, Patrick J McDONNELL, George W McGUIRE, Morley J McHARG, Roger N McHARG, Roger N McHARG, Roger N McKETTERICK, George M McLACHLAN, Andrew A McLEOD, Myrvin K McNAUGHTON, James C MARSH, Bruce M MARSH, Ronald T MARTIN, Paul MAXWELL, Patrick J MILES, Warren	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2QI4 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . P1CS3 . LSEM1 . LSPR2 . LSVS2 . P1AO3 . LSAR1 . LSQM1 . LSAF1 . LSQM1 . LSAF1 . LSQM1 . LSAR1 . LSQM1
LAURIE, Laughlin C. LAURIE, William B LEAFLOOR, Frederick A. LEPAGE, Gilles J LEPPARD, Edward A LEWIS, Charles LEWIS, Charles LEWIS, Philip J LINFORD, Lorne K MacDONALD, Murray H MacLEOD, Kenneth R McBURNEY, Richard C McCOLM, Clayton W McCARTHY, Augustine J McCLELLAND, James S McCLURE, Patrick J McDONNELL, George W McGUIRE, Morley J McHARG, Roger N McINTOSH, Ronald C McKENNA, James J McKETTERICK, George M McLACHLAN, Andrew A McLEOD, Myrvin K McNAUGHTON, James C MARSH, Bruce M MARSH, Ronald T MARTIN, Paul MAXWELL, Patrick I	. P1CS3 . LSAR1 . P1CR2 . LSQM1 . P1CR2 . C2QI4 . P1CR2 . LSEF3 . LSOM2 . P2AA2 . P1CS3 . P1PC3 . LSEM1 . LSPR2 . LSVS2 . P1AO3 . LSAR1 . LSQM1 . LSAF1 . LSQM1 . LSAF1 . LSQC1 . LSAR1 . LSQC2 . LSQR1 . LSAR1 . LSQR1

GRAHAM, Thomas BP2EA3	MORTLOCK, Georges JLSEM1
GRAY, Charles ALSEM1	MOULAND, Wilson F
GKA1, Charles A	MURLAND, Sture JLSEM1
HALDANE, Frederick EP1ER4	MUTTERSBACK, Harry RLSEM1
HAMILTON Donald W PIETA	MOTIBRODITOR, Harry R
HAMILTON, Donald WP1ET4 HAMILTON, Robert ALSPW1	NICOLLE, Vincent GLSEM1
HANGEN WILL DELTA DEM2	NICOLLE, VINCENT GLSEWII
HANSEN, Willy	NORMAN, Gerald MLSCR1
HARRIS, John RLSEM1	O'HARA, John JLSLR1
HAVELOČK, Roland GP2BD3	OLDREIVE, William FLSBD2
HERRING, Raymond DP2CR2	O'QUINN, BernardLSQR1
HIGGINS, Stephen JLSAA1	O'RILEY, John KP2CR2
HILES, Melvin AP1ER4	
HILL, James EP2EM2	PAQUETTE, Joseph ELSTD1
HINES, Raymond WLSCS2	PITUL, WilliamP2CR2
HODGÉ, FrederickLSAR1	POISSON, Arthur JLSTD2
HOTT, Ronald LLSEA3	POTTS, Charles SLSBD2
HOULE, John ELSEM1	POULTON, GeffreyP1CR2
HOULE, Reynold JLSAM2	PURDY, Lloyd MLSEM1
HOWELL, Frank R P2EM2	PUSKAS, JohnLSBD2
HUFF, Warren BP1CR2	1 Cottato, John
HUNT, Murray JP2CV2	DEED HUIL A DICCI
HUTTON, Walter HLSTD1	REED, William AP1CS3
	REID, David T LSRC1
IGOE, John MLSEM1	REYNOLDS, Morris HLSBD2
100D, Juni 111	RIPCHINSKY, Victor LSQR2
IAMES Harold C I SEM1	ROBSON, James HLSAA1
JAMES, Harold CLSEM1	ROSE, Donald LLSEM1
JANES, Ralph GLSCR1	ROSS, Thomas ELSCR1
JOHNSON, Richard LC1VI4	ROUGEAU, Rene JLSEM1
JORDAN, Donald ALSEM1	ROY, Delphis JP2RS3
JUDGE, William ELSTD1	RUDDIFORD, Donald BLSEM1
J = 2 = 2, 11 - 11 - 11 - 11 - 11 - 11 - 11 - 1	RUSSELL, George ALSRP1
MAVE Donald I P2EM2	· •
KAYE, Ronald L	SABEAN, Charles RC1CS4
KENNEDY, Donald ALSTD1	SARRAZIN, Antonio JLSTD1
KING, William ALSRP1	SHAND, Donald LLSEM1
KIRTON, IrwinLSQR1	SHATTUCK, Wayne AP2CR2
KNICKLE, Douglas ELSAA1	SHEPPARD, Lindsay EC2CV3
KOSAKOWSKY, Louis LP2EM2	SHERBINA, Robert DLSEM1
KOWALSKY, Karl JLSAA1	SINDALL, George ALSEM1
	SINKINS, George MLSEG3
KRUGER, MichaelP1CR2	SLOAN, James J
	SMITH, Kenneth ELSCR1
LAIDLAW, James ALSCV1	SMITH, Roland DLSAR1
LAURIE, Laughlin CP1CS3	SMITH, William EESCS2
LAURIE, William BLSAR1	SOUTHALL, Allan D
LEAFLOOR, Frederick AP1CR2	STAICUE, Roy ELSCV1
LEPAGE, Gilles JLSQM1	STAPELTON, Dennis MLSCR1
LEFAGE, Gilles J	
LEPPARD, Edward AP1CR2	STEEP, Robert J
LEWIS, Charles	STEVENS, Donald LSCS2
LEWIS, Philip JP1CR2	STEWART, Charles ALSRP1
LINFORD, Lorne KLSEF3	STRANGER, David RLSEM1
,,,	STYLES, Robert CLSEM1
MacDONALD, Murray HLSOM2	SULLIVÁN, Leonard J
MacLEOD, Kenneth RP2AA2	SULLIVAN, Ronald NLSAA1
	SUMMERS, Ernest J LSLR2
McBURNEY, Richard CP1CS3	SUNDERLAND, Neil JLSQM1
McCOLM, Clayton W	
McCARTHY, Augustine JLSEM1	TARRABAINE, AlexLSEM1
McCLELLAND, James SLSPR2	TAYLOR, James DLSSE1
McCLURE, Patrick JLSVS2	TEMPLETON, John ALSRC2
McCOWELL, Daniel LP1AO3	TESTORI, Beverly LLSTD2
McDONNELL, George WLSAR1	THOMAS, Keith CLSEM1
	THOMPSON, Douglas FLSEM1
McGUIRE, Morley JLSQM1	THWAITES, Joseph CP2EM2
McHARG, Roger NLSAF1	THWAITES, Joseph CP2EM2 THYNNE, Robert EP2CR2
McHARG, Roger NLSAF1 McINTOSH, Ronald CLSCV1	THWAITES, Joseph C
McHARG, Roger NLSAF1 McINTOSH, Ronald CLSCV1	THWAITES, Joseph C
McHARG, Roger N.         LSAF1           McINTOSH, Ronald C.         LSCV1           McKENNA, James J.         LSRC2	THWAITES, Joseph CP2EM2 THYNNE, Robert EP2CR2
McHARG, Roger N.         LSAF1           McINTOSH, Ronald C.         LSCV1           McKENNA, James J.         LSRC2           McKETTERICK, George M.         LSQR1	THWAITES, Joseph C.       P2EM2         THYNNE, Robert E.       P2CR2         TREMBLAY, Claude R.       P2BD3         TURNER, Henry M.       LSTD1
McHARG, Roger N.         LSAF1           McINTOSH, Ronald C.         LSCV1           McKENNA, James J.         LSRC2           McKETTERICK, George M.         LSQR1           McLACHLAN, Andrew A.         LSAR1	THWAITES, Joseph C.       P2EM2         THYNNE, Robert E.       P2CR2         TREMBLAY, Claude R.       P2BD3         TURNER, Henry M.       LSTD1         VERGOUWEN, Peter J.       LSCV1
McHARG, Roger N.         LSAF1           McINTOSH, Ronald C.         LSCV1           McKENNA, James J.         LSRC2           McKETTERICK, George M.         LSQR1           McLACHLAN, Andrew A.         LSAR1           McLEOD, Myrvin K.         LSQM1	THWAITES, Joseph C.       P2EM2         THYNNE, Robert E.       P2CR2         TREMBLAY, Claude R.       P2BD3         TURNER, Henry M.       LSTD1
McHARG, Roger N	THWAITES, Joseph C. P2EM2 THYNNE, Robert E. P2CR2 TREMBLAY, Claude R. P2BD3 TURNER, Henry M. LSTD1  VERGOUWEN, Peter J. LSCV1 VINCENT, Glenford A. LSTD1
McHARG, Roger N. LSAF1 McINTOSH, Ronald C. LSCV1 McKENNA, James J. LSRC2 McKETTERICK, George M. LSQR1 McLACHLAN, Andrew A. LSAR1 McLEOD, Myrvin K. LSQM1 McNAUGHTON, James C. LSSE1 MARSH, Bruce M. LSAA1	THWAITES, Joseph C.       P2EM2         THYNNE, Robert E.       P2CR2         TREMBLAY, Claude R.       P2BD3         TURNER, Henry M.       LSTD1         VERGOUWEN, Peter J.       LSCV1         VINCENT, Glenford A.       LSTD1         WAGAR, Lawrence L.       LSEM1
McHARG, Roger N.         LSAF1           McINTOSH, Ronald C.         LSCV1           McKENNA, James J.         LSRC2           McKETTERICK, George M.         LSQR1           McLACHLAN, Andrew A.         LSAR1           McLEOD, Myrvin K.         LSQM1           McNAUGHTON, James C.         LSSE1           MARSH, Bruce M.         LSAA1           MARSH, Ronald T.         P2CR2	THWAITES, Joseph C.       P2EM2         THYNNE, Robert E.       P2CR2         TREMBLAY, Claude R.       P2BD3         TURNER, Henry M.       LSTD1         VERGOUWEN, Peter J.       LSCV1         VINCENT, Glenford A.       LSTD1         WAGAR, Lawrence L.       LSEM1         WALKER, Cyril H.       C2CS4
McHARG, Roger N.         LSAF1           McINTOSH, Ronald C.         LSCV1           McKENNA, James J.         LSRC2           McKETTERICK, George M.         LSQR1           McLACHLAN, Andrew A.         LSAR1           McLEOD, Myrvin K.         LSQM1           McNAUGHTON, James C.         LSSE1           MARSH, Bruce M.         LSAA1           MARSH, Ronald T.         P2CR2           MARTIN, Paul.         P1AC3	THWAITES, Joseph C.         P2EM2           THYNNE, Robert E.         P2CR2           TREMBLAY, Claude R.         P2BD3           TURNER, Henry M.         LSTD1           VERGOUWEN, Peter J.         LSCV1           VINCENT, Glenford A.         LSTD1           WAGAR, Lawrence L.         LSEM1           WALKER, Cyril H.         C2CS4           WALSH, Martin T.         LSQR1
McHARG, Roger N.         LSAF1           McINTOSH, Ronald C.         LSCV1           McKENNA, James J.         LSRC2           McKETTERICK, George M.         LSQR1           McLACHLAN, Andrew A.         LSAR1           McLEOD, Myrvin K.         LSQM1           McNAUGHTON, James C.         LSSE1           MARSH, Bruce M.         LSAA1           MARSH, Ronald T.         P2CR2           MARTIN, Paul.         P1AC3	THWAITES, Joseph C.         P2EM2           THYNNE, Robert E.         P2CR2           TREMBLAY, Claude R.         P2BD3           TURNER, Henry M.         LSTD1           VERGOUWEN, Peter J.         LSCV1           VINCENT, Glenford A.         LSTD1           WAGAR, Lawrence L.         LSEM1           WALKER, Cyril H.         C2CS4           WALSH, Martin T.         LSQR1           WATKINS. Percy D.         LSEF3
McHARG, Roger N. LSAF1 McINTOSH, Ronald C. LSCV1 McKENNA, James J. LSRC2 McKETTERICK, George M. LSQR1 McLACHLAN, Andrew A. LSAR1 McLEOD, Myrvin K. LSQM1 McNAUGHTON, James C. LSSE1 MARSH, Bruce M. LSAA1 MARSH, Ronald T. P2CR2 MARTIN, Paul. P1AC3 MAXWELL, Patrick J. P2CR2	THWAITES, Joseph C. P2EM2 THYNNE, Robert E. P2CR2 TREMBLAY, Claude R. P2BD3 TURNER, Henry M. LSTD1  VERGOUWEN, Peter J. LSCV1 VINCENT, Glenford A. LSTD1  WAGAR, Lawrence L. LSEM1 WALKER, Cyril H. C2CS4 WALSH, Martin T. LSQR1 WATKINS, Percy D. LSEF3 WITHROW, Maurice S. LSRC1
McHARG, Roger N. LSAF1 McINTOSH, Ronald C. LSCV1 McKENNA, James J. LSRC2 McKETTERICK, George M. LSQR1 McLACHLAN, Andrew A. LSAR1 McLEOD, Myrvin K. LSQM1 McNAUGHTON, James C. LSSE1 MARSH, Bruce M. LSAA1 MARSH, Ronald T. P2CR2 MARTIN, Paul. P1AC3 MAXWELL, Patrick J. P2CR2 MILES, Warren. P2ET3	THWAITES, Joseph C.         P2EM2           THYNNE, Robert E.         P2CR2           TREMBLAY, Claude R.         P2BD3           TURNER, Henry M.         LSTD1           VERGOUWEN, Peter J.         LSCV1           VINCENT, Glenford A.         LSTD1           WAGAR, Lawrence L.         LSEM1           WALKER, Cyril H.         C2CS4           WALSH, Martin T.         LSQR1           WATKINS, Percy D.         LSEF3           WITHROW, Maurice S.         LSRC1           WOOD. James W.         P1CS3
McHARG, Roger N. LSAF1 McINTOSH, Ronald C. LSCV1 McKENNA, James J. LSRC2 McKETTERICK, George M. LSQR1 McLACHLAN, Andrew A. LSAR1 McLEOD, Myrvin K. LSQM1 McNAUGHTON, James C. LSSE1 MARSH, Bruce M. LSAA1 MARSH, Ronald T. P2CR2 MARTIN, Paul. P1AC3 MAXWELL, Patrick J. P2CR2 MILES, Warren. P2ET3 MILLS, Harvey M. C2OM3	THWAITES, Joseph C. P2EM2 THYNNE, Robert E. P2CR2 TREMBLAY, Claude R. P2BD3 TURNER, Henry M. LSTD1  VERGOUWEN, Peter J. LSCV1 VINCENT, Glenford A. LSTD1  WAGAR, Lawrence L. LSEM1 WALKER, Cyril H. C2CS4 WALSH, Martin T. LSQR1 WATKINS, Percy D. LSEF3 WITHROW, Maurice S. LSRC1
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McHARG, Roger N.         LSAF1           McINTOSH, Ronald C.         LSCV1           McKENNA, James J.         LSRC2           McKETTERICK, George M.         LSQR1           McLACHLAN, Andrew A.         LSAR1           McLEOD, Myrvin K.         LSQM1           McNAUGHTON, James C.         LSSE1           MARSH, Bruce M.         LSAA1           MARSH, Ronald T.         P2CR2           MARTIN, Paul.         P1AC3           MAXWELL, Patrick J.         P2CR2           MILES, Warren.         P2ET3           MILLS, Harvey M.         C2OM3           MONCRIEFF, John E.         LSCR1           MONTFORD, Leonard G.         LSRS3	THWAITES, Joseph C. P2EM2 THYNNE, Robert E. P2CR2 TREMBLAY, Claude R. P2BD3 TURNER, Henry M. LSTD1  VERGOUWEN, Peter J. LSCV1 VINCENT, Glenford A. LSTD1  WAGAR, Lawrence L. LSEM1 WALKER, Cyril H. C2CS4 WALSH, Martin T. LSQR1 WATKINS, Percy D. LSEF3 WITHROW, Maurice S. LSRC1 WOOD, James W. P1CS3 WOODILL, Ronald A. LSQM1  YORGA, Willard P1CS3
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