Continuing Canadian Naval Officer Training in the 21st Century

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Introduction

On 30 September 2005 at CFB Esquimalt, Chief of the Maritime Staff Vice-Admiral Bruce MacLean presided over a ceremony at Work Point Barracks to open the new accommodation block and a galley/dining facility for junior officers. With this occasion, an important step was taken in the evolution of junior officer training in the Canadian Navy at *Venture*, the Naval Officers Training Centre (NOTC). The new construction is innovative and modern – the entire construction project earned CFB Esquimalt the Esquimalt Chamber of Commerce's 2005 award for Best New Development – adjectives which also reflect the training for Canadian naval officers in the 21st century.

The accommodation block was named after Admiral Sir Charles E. Kingsmill, a Canadian-born "forgotten father" of the Canadian Navy.[1] At the ceremony was a polished sterling silver cup originally presented by Admiral and Mrs. Kingsmill to the Royal Naval College of Canada (RNCC) in 1916 (arriving via RNCC's move to Esquimalt in 1918-1922, thence to Royal Roads Naval/Military College, 1940-1995), and a bronze plaque bearing details of the dedication. A large HMCS *Venture* crest was mounted on the plaque, carrying on a proud association with junior officer training. In the central plaza of the block is a bronze statue of a *Venture* cadet circa 1954, which was commissioned and donated by the *Venture* Association.

These details remind us of the challenge for *Venture* as it continues its mission of training Canada's naval officers – the challenge of embracing the potential of the future, while never losing touch with the past that defines both the school and the profession itself.

History

The roots of *Venture* are found in the establishment of the *Venture* Plan in 1954 to address critical RCN officer shortages that were not being addressed by existing intake plans.[2] Thus, HMCS *Venture* was commissioned as the RCN Junior Officer Training Establishment and located in the Esquimalt dockyard on the site of HMCS *Givenchy*, a speciality school that ran 1943-45 for naval gunners crewing civilian vessels in World War II. It consisted of a parade square surrounded by buildings housing administration, accommodation, classrooms and a chapel, as well as a playing field, a gymnasium and a boat shed. The role of HMCS *Venture* was to train junior naval officers of the executive, engineering, fleet air arm and naval supply branches during a two-year term of academic education. After that basic training the various branches received different professional and educational training appropriate to their branch. The *Venture* motto was "A New Undertaking, to Dare and Not to be Afraid."

In September 1963, the *Venture* Plan was superseded and intake shifted to the Short Service Officer Plan (SSOP) for maritime officers. The curriculum was reduced to 16 months at the same time. In 1968 with the adoption of integration, the Canadian Forces Officer Training Establishment (CFOTE) was founded and *Venture* was phased out. Responsibility for training naval officer cadets shifted to the Officer Training Division (OTD) at the Fleet School (CFFS) in Esquimalt. The OTD, through the Fleet School, was responsible to, and reported to, the newly established CF Training Command Headquarters in Winnipeg, Manitoba.

Photo credit: Author

Vice-Admiral Bruce McLean, CMS, and Rear-Admiral Roger Girouard, Commander Maritime Forces Pacific, with members of the Venture Association Executive at the opening of the Kingsmill Building.

Subsequent to the recommendations of the Maritime Officer Production Study (MOPS), the Naval Officer Training Centre (NOTC) was established from the OTD at CFFS Esquimalt in September 1976. NOTC was then relocated back to the former HMCS *Givenchy*/HMCS *Venture* dockyard complex in September 1977 and approval given to re-use the name *Venture* thus giving the school ties to a long line of historic vessels. There *Venture* continued its work through the 1980s and into the 1990s with little change in infrastructure or curriculum.

While the training system was effective, it was tenaciously holding on to a curriculum designed when computer technology for training was not readily available, and dedicated destroyer (DDE) and ex-minesweeper (PB) bunks were abundant. But neither of these were to remain true for much longer. In fact, pressures had already led to a change from a training stream that produced fully qualified officers-of-the-day (OOD)/watch (OOW), to one producing an OOD with only a 2OOW qualification, and finally to producing only a 2OOD/2OOW. Furthermore, while the 1992 Nason report on the way ahead identified a transitional plan to take maritime surface/subsurface (MARS) training into the Canadian patrol frigate (CPF) age, it required a commitment of at least two DDE/FFHs to training at least through 1997 that was already proving problematic in 1994.[3]

Transformation

The impending de-commissioning of the last DDEs and subsequent loss of the West Coast training squadron in the early 1990s provided added impetus for change in naval officer training. The navy conducted a trial of a virtual reality simulator (VRS) at *Venture* in 1993. As a low-fidelity proof-of-concept system, the VRS was never intended for production, but it did prove that simulation could be an effective training tool in a modernized curriculum without dedicated sea-going platforms. This was followed with a trial teaching students in a leased high fidelity full-mission simulator (FMS) in St John's, Newfoundland, with a control group maintained in DDEs. At roughly the same time, a NOTC Facilities Upgrade Project, established in the Defence Services Program in the late 1980s, was solidifying its Statement of Requirements in terms of supporting physical infrastructure and providing modern facilities for this key naval training establishment.

The forces for change reached critical mass in a fortuitous coincidence with the army's withdrawal of the 3rd Battalion, Princess Patricia's Canadian Light Infantry (PPCLI) from CFB Esquimalt's historic Work Point Barracks property.[4] Plans for *Venture* were reviewed in light of the opportunities presented. Rather than constructing comprehensive new facilities for NOTC at CFB Esquimalt's Naden property, the school could be relocated from its antiquated and dispersed WW II-vintage facilities at Dockyard to several of the ex-PPCLI buildings at Work Point. This move occurred in the fall of 1994 and *Venture* inherited many of the buildings that had been occupied by the PPCLI. However, while a new lecture/training building built by the army in 1988 gave *Venture* contemporary classrooms and instructional spaces that had not been available in Dockyard, there was still insufficient room for the staff, and the building did not accommodate all the required training functions.

Furthermore, the administrative, dining and sport facilities into which NOTC had moved were still somewhat dispersed, and in many ways were little better than the facilities left behind at Dockyard. Moreover, the 1950s quartering facilities available at Work Point provided a mixed standard of accommodation which did not conform to the norms espoused by the Department of National Defence (DND).

Based on the success of the FMS experience in Newfoundland and the navy's commitment to a future including simulation, a separate $10 million capital construction project was initiated to construct the navy's own Junior Officer Bridge Simulator (JOBS) at Work Point. Built as an extension to the existing training facilities, the complex now houses the re-named Navigation and Bridge Simulator (NABS) as well as a facility with a computer-based training lab, two multimedia theatres, numerous classrooms and offices for all training officers.

The school's flagstaff which now stands in front of the

Venture cadets at divisions in the 1950s.

Work Point Barracks.

building was originally the mainmast of the training schooner *Venture*. The mast had previously become the flagstaff for the newly opened Naval Training Base, HMCS *Cornwallis* in 1943. With the imminent closure of CFB Cornwallis in September 1994, concerted efforts by many retired and currently serving *Venture* officers ensued that this naval artefact was preserved at NOTC on the West Coast. The mast came down in Cornwallis in April 1995 and was delivered to Halifax for transfer to Esquimalt in HMCS *Huron*. The mast was refurbished at CFB Esquimalt and NEU(P) in the Dockyard, and was set in concrete in November 1997 shortly after the NABS opened. The entire facility was dedicated as the Vice-Admiral A.L. Collier Building on 12 December 1997 by Vice-Admiral Maddison.

Meanwhile, a phased development plan had been initiated in 1995 to provide a more cohesive *Venture* campus while meeting the requirement to tailor the inventory of buildings at Work Point to meet the needs of CFB Esquimalt and to reduce annual operating and maintenance costs. Plans were approved for the $4.575M Phase One of the NOTC Facilities Upgrade Project, a multi-functional training support facility, and ground was broken on 15 October 1998. A completely new structure was situated on a site, across the street from the Collier Building's lecture/training facility, that incorporated office space for command, departmental heads and an orderly room, a specialized seamanship classroom, a cadet gunroom mess, a multi-purpose gymnasium and drill deck, change rooms with showers, and a sport field was adjacent. The new building opened in October 1999. Dedicated as the Commander E.A. Nixon Building, it honours the memory of Commander Edward Atcherley Eckersall Nixon, RCN (1878-1924) who, as Commandant of the Royal Naval College of Canada, was the heart and soul of junior naval officer training in Canada during the early years of the Royal Canadian Navy.

Plans for the $18.2M Phase Two of the NOTC Facilities Upgrade – including a dining hall/galley and new junior officer accommodations – were approved in April 2002 and ground breaking followed on 3 July 2003. Construction continued throughout 2004 and the new buildings were handed over to DND on 31 January 2005. The new six-storey Kingsmill Building provides 86 double occupancy 'cabins' and a duty officer's cabin. The cabins have two bedrooms with closets, TV/phone/internet service, a common living area, small kitchenette and a common washroom with shower. The adjacent single-storey dining/galley building was designed to provide seating for a minimum of 250 persons. It has been set up with 296 seats and can handle a larger number if necessary. The galley provides a functional work-environment for the staff, and has the capacity to produce meals for twice the occupant loading of the dining room, over two sittings. The appealing dining room overlooks Victoria Harbour through floor-to-ceiling glass and has remarkable acoustic qualities.

Worthy of particular note is the fact that both of the new structures can be considered to be "green" buildings since numerous, innovative, sustainable design features have been incorporated. For example, the roofline of each building features large "solar chimneys" which have been designed to facilitate natural ventilation, thereby reducing the dependency on mechanical systems and improving the energy consumption of these new facilities.

Today

Venture has a new motto – "To Learn, To Serve, To Lead" – but it continues to execute its main mission which is to provide initial training of all MARS Officers destined for the fleet. In addition to the officer-of-the-watch and navigation skills of basic MARS occupational training, *Venture* also delivers the naval environmental indoctrination course (which succeeded the old MARS 2 course) to all naval engineering and sea logistics officers prior to their own occupational training, and hosts the CDA-directed N-OPME courses (which succeeded the OPDP) for the professional development of junior officers. At the senior level, *Venture* conducts advanced navigation training for the fleet's navigation officers, trains cadet instructor cadre and non-commissioned members to operate the YAG tender class vessels, conducts blind pilotage training for ship's command teams, and hosts the Command Qualification Pt 2 Boards twice yearly for prospective commanding officers.

The jewel in the crown of all these efforts remains the NABS facility, the larger of the navy's two state-of-the-art visual and radar simulators built by Kongsberg Nor-Con-

Artist's impression of the new Kingsmill Building.

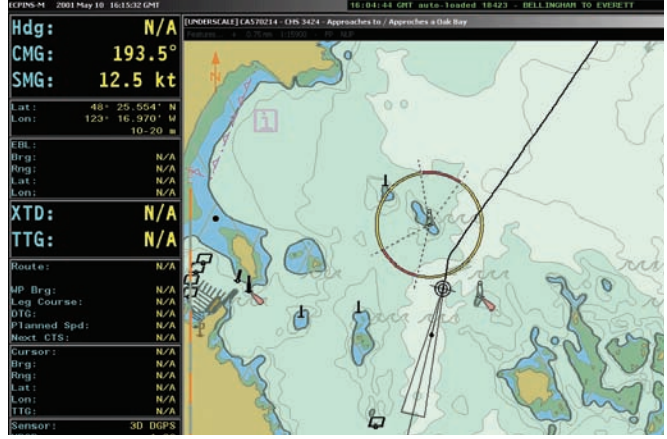
trol (KMSS) of Norway. Built to assume some of the sea-going role of the former training squadron's destroyers by providing accurate, challenging and realistic scenarios in support of OOW bridge and navigation training, the NABS has not only satisfied the navy's demanding training provisions, but proven an incredibly cost-efficient and flexible resource. In fact, the annual cost of running the simulator is estimated to be equal to the monthly amount of running just one destroyer. With its four visual and four blind bridges, NABS remains not only the largest KMSS has ever built, but also the largest marine simulator of this type in the world. Further, through a continuing in-service support relationship, the simulator and its supporting geographic databases have kept pace with the spectacular advances made in the underlying civilian commercial off-the-shelf computer technology. One can imagine the dimension of these changes if you consider that the standard computer when NABS was designed was an Intel 286 – now each screen's image generator runs on a Pentium 3, with more upgrades on the horizon. Where once there were crude-shaded polygons for scenery, the shading and textures are now extremely sophisticated.

The NABS has two types of bridges. One, a visual bridge, has a 360-degree panoramic view of what you would normally see from a bridge of a naval ship. The other, a blind bridge, has all the same electronic equipment as a visual bridge but with none of the visuals. These blind bridges are used for anti-collision training and radar passages as would be conducted from the operations room or in zero visibility and can be run either independently from or slaved to a visual bridge. Both kinds of bridges have the same working equipment as Canada's naval warships, including the modern *Halifax*-class frigates and maritime coastal defence vessels (MCDVs).

The bridges can be configured to emulate any of the major platforms in the Canadian fleet as well as various commercial platforms. Each platform incorporates an accurate physical and hydrodynamic model so as to respond realistically to steering orders and environmental conditions like tide, current and wind. Ship equipment defects such as steering gear breakdowns and navigational aid faults may also be entered for more rigorous scenarios. The NABS operators can also introduce other ships, land masses or obstacles into the scenario at any time from their workstations. Or they can also expose NABS participants to many types of visual impairment, such as rain, fog and darkness. To ensure high-quality training and continuity amongst staff, the NABS operators are all ex-naval officers of senior rank with at least one command tour. This allows them to supplement the efforts of the course training officers with mentorship and objective assessment in place of the captains of the training destroyers.

In addition to the original NABS full-mission simulator, *Venture* has recently adopted a specialized part-task trainer to support the MARS curriculum. A training analysis was conducted by NOTC as experience was gained in the full potential of, and how to properly utilize, NABS in training as opposed to simple transposition of the previous sea-going program from DDEs. It revealed a need that was already well-established – that of part-task training to build smaller individual skills after classroom theory but before full job performance on a bridge in NABS or at sea. In the naval part-task trainer (NPTT) course, each student can concentrate individually on radar operation and plotting, navigation and fixing, conning and manoeuvring etc., in a series of tailored lessons linked to a learning management system that tracks and records performance. With the power now resident in desktop computers, NPTT runs software, visual databases and scenarios identical to the parent NABS and emulates the look, feel and functionality of every piece of equipment that will be encountered in the fleet. The development of this system in early 2001 led to a wave of similar requirements emerging from the civilian marine training and certification field and, with its pairing of NABS and NPTT, the navy installation at *Venture* remains a proud flagship for KMSS.

Composite of NABS image and the real world of a frigate alongside in Halifax.



SHINPADS screen shot.

The Future

For the near future (10+ years), the Canadian Navy will remain committed to the progress made at *Venture*'s Work Point campus in supporting the development of future generations of Canadian naval officers as they prepare for their careers at sea. Notwithstanding the substantial changes of the past 10 years, more is yet to come for NOTC. After all, training should be evolving at a pace equal to the profession itself and the navy's personnel demands. *Venture* has already assumed responsibility for providing a basic officer training course (BOTC) for naval reserve officers in the only CDA-accredited program outside of CFLRS St Jean. This mandate will remain as a minimum, and may well provide a valuable foothold in light of forecast CF recruiting requirements. As a result, one more phase of improvements remains outstanding in the DSP construction program – another $2.15M project for the classroom, office and related ancillary storage requirements for the BOTC division of *Venture*.


NPTT work station.

The face of the sea-phases for MARS courses will also see changes. Having already shifted from DDE/FFH to the MCDVs for their final assessed phases, the earlier developmental MARS phases in the YAG tender class will take on a whole new dimension with delivery of the first *Orca*-class YAG 300 replacement forecast for September 2006. A $69.7M project will see Victoria Shipyards Co. Ltd. build a minimum of six vessels of approx 110 ft overall and displacing 210 tonnes, with a top speed of 20kts with twin inboard diesel propulsion. With modern crew spaces for four plus 16 students and including a briefing area, the ships will have a modern enclosed bridge, remote machinery control, ARPA radar and a standard navy electronic charting system.

This last item hints at another monumental change coming soon to the MARS curriculum itself. With delivery of the final version of the SHINNADS Dual-M ECDIS system, every ship in the fleet is expected to have been fitted and certified for its use in 2006. As a result, *Venture* will have to revise its training stream to reflect this change in imparting the operator skills particular to the system, but also in teaching the underlying fundamentals in a truly paperless navigation environment. Students will walk to and from class clutching their notebook computer instead of their training folio.

Advances in modeling and simulation technology will likely see a convergence of the many stand-alone systems currently populating the naval training system. It will not be long before high-level architectures will permit the networking of the various trainers through common protocols such that an OOW in NABS would report to an ORO in the ORTT in Halifax regarding the joining of a CP-140 Aurora TACNAV working in an AIMP trainer in Greenwood while they conduct a search for a submarine being run from the SCTT in Halifax. The possibilities are amazing.

It is true that *Venture* is less visible to the bulk of the navy working in the Dockyard or at Naden since NOTC's shift to Work Point in 1994. Graduates from the school a little over 10 years ago would hardly recognize the training stream of today. They would see broad changes in the waterfront with new classes of ships entering service, upgrades to weapons and sensor systems, new jetty construction, a new FMF complex and myriad new high-tech trainers at CFFSE in Naden and CFNOS in Halifax. However, they can rest assured that out of sight has not meant out of mind – at Work Point, NOTC has undergone its own dramatic changes in keeping pace with the times, and will continue to do so in times to come.

Notes

1. Admiral Sir Charles E. Kingsmill Kt, RN, RCN (1855-1936) was a Canadian-born Royal Navy Flag Officer commanding the fledgling Canadian Marine and Fisheries fleet when he proposed the framework that led to the establishment of the Canadian Naval Service in 1910, of which he served as the first Director until his retirement in 1920.
2. The *Venture* Plan was succeeded by the navy's Short Service Officer Plan (SSOP), which then evolved into the CF's Officer Candidate Training Plan (OCTP). Briefly retained in 1998 under the OPD 2020 vision of a degreed officer corps as the transitional Continuing Education Officer Training Plan (CEOTP), the non-university intake stream was wholly eliminated in 2001. The CDS re-established CEOTP in 2005 given the inability of the DEO and ROTP programs to meet intake requirements.
3. CTGP: 4840-1 (Comd) Dated 11 April 1994; the COMTRAINPAC Report on the Integration of Simulators into MARS Officer Training.
4. The Work Point Barracks site claims a military history dating to 1888 when "C" Battery, Regiment of Canadian Artillery was stood up at Victoria to meet constitutional commitments to protect the fledgling province of British Columbia (along with building a railroad) and counter Russian imperial interest in the area.

*Lieutenant-Commander Brian (Elvis) Costello is currently the Executive Officer of HMCS **Calgary**. He previously served as Executive Officer at **Venture**. He has drawn upon official records, capital projects documentation, and archival research of Captain (N) W.G. Lund (Ret'd) and Dr. R. Gimblett. Any errors or omissions remain solely the author's.*