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Preparing Training for the Canadian Surface Combatant

Lieutenant-Commander James LeClair

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Preparing Training for the Canadian Surface Combatant

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PREPARING TRAINING FOR THE CANADIAN SURFACE COMBATANT

The Royal Canadian Navy is undergoing the largest recapitalization in its history. Under Strong Secure and Engaged, new capabilities will be introduced with the Canadian Surface Combatant (CSC), will be re-established in the Joint Support Ship, and have already been realized with the Harry DeWolf Class Arctic Offshore Patrol Vessel.¹ Focusing on CSC, the RCN will receive new capabilities in a ship that can dominate its environment in all three principal domains of warfare: Anti-Air (AAW), Anti-Surface (ASUW), and Anti-Submarine (ASW). Although construction of CSC has not yet commenced, it is evident that CSC will be the backbone of the RCN for generations, as there are 15 platforms ordered by the Canadian Government. Now is the time for the RCN to prepare for the new introduction of class and capability. Naval training systems need to leverage existing relationships with allies, develop new training models, re-forge close relationships with internal stakeholders, and revisit lines of operation within Individual Training (IT) and Collective Training (CT) in the RCN. This paper will focus on the combat operator, including both officers and non-commissioned members. Although some arguments can be made for engineering occupations and logistics occupations, the introduction of new capabilities and limitation of crew size in CSC will drive institutional changes in occupation structure of naval combat operators that will impact training institutions. This paper will focus primarily on the CSC. The corporate knowledge of operating Auxiliary Oiler Replenishment (AOR) vessels is still resident

¹ Canada. Department of National Defence. *‘Strong Secure Engaged; Canada’s Defence Policy’*. Last modified 03 April 2017.108

with senior leadership in the RCN based on the *Protecteur* Class and the employment of Naval Replenishment Unit Asterix has rebuilt this knowledge with today's fleet.

INTRODUCTION

Individual Training in the Royal Canadian Navy (RCN) is the responsibility of Assistant Chief of Naval Staff Personnel and Training (ACNS P&T)². This Director is responsible for the individual training of naval trades for officers and non-commissioned members. Through a RCN member's career, they will receive individual training as they advance in rank so as to perform at sea in accordance with the Terms of Reference (TOR) for their position. Additionally, they will also receive training as members of a ship's company from Sea Training Group (STG). Sea Training Group focuses on mentoring and training of a ship in accordance with an RCN ship's program as it prepares for employment by Maritime Forces Atlantic (MARLANT), Maritime Forces Pacific (MARPAF), or Canadian Joint Operational Command (CJOC). Commander Sea Training Group (CSTG) is not responsible to ACNS P&T. Instead, CSTG reports to Formation Commanders on findings of a ship's preparedness for employment after a period of readiness training.³ This model of dividing Individual Training and Collective between different authorities could be considered counterproductive by some, because each agency is not directly responsible to the same superior command.

² Canada. Department of National Defence. '*Evaluation of Ready Naval Forces – Performance Measurement and Evaluation Committee Meeting*'. Assistant Deputy Minister (Review Services). 2019.3

³ *Ibi.d*, 3

TO FUSE OR DIVIDE INDIVIDUAL AND COLLECTIVE TRAINING

One could argue that having STG and NPTG report to a centrally controlled would streamline and unify command to ensure that operator, as the center-piece of the training, receives the best delivery of service. The Royal Navy has recently decided to divide their lines of effort in training similar to the RCN. Known historically as Flag Officer Sea Training (FOST), the RN's model was a master schoolhouse, with FOST responsible for all the entire spectrum of naval training, from individual to collective. Historically, this model was acceptable, but recent change initiatives and transformation drove the RN to rename FOST to Fleet Operations Sea Training, reflection the de-coupling of training ashore and at sea at the interest of serving the client, the ship, instead of the ship serving the trainer's schedule.⁴ The Royal Australian Navy, which is similar in size to the RCN, has one Flag Officer, Commodore Training (COMTRAIN), who is responsible for individual and ship level training.⁵ There are two models to approach training, and there may be efficiencies found in a single institution responsible for IT and CT. In the RCN's future Concept of Operations (CONOPS) of training, there is a suggested organization that will oversee both, but this is simply a CONOPS at this point in time.⁶ In that same spirit, the RCN must be cautious if there is an interest in uniting the training institutions into one Command if the outcome of another command level will simply create further levels of bureaucracy in delivering training to sailors.

⁴ Navy Lookout. 'Prepared for the fight – Royal Navy Operational Sea Training' 2021.

⁵ Australia. Royal Australian Navy. 'Deputy Chief of Navy and Head Navy People Training and Resources' Last accessed 10 April 2022.

⁶ Canada. Department of National Defence. Royal Canadian Navy. 'Future Naval Training System (FNTS) Concept of Operations (CONOPS) V2.1'. Ottawa. 2020. Accessed 10 April 2022. 27

The task of delivering CT has mostly been the task of Sea Training Group. STG is led by a Captain (Navy) and reports to the Fleet Commanders on each coast, who report to Formation Commanders. There is a commander of Sea Training Atlantic and Sea Training Pacific. The roster of sea trainers are Senior Officers and Non-Commissioned Officers (NCOs) who deliver and evaluate CT alongside and at sea. This period is referred to in general terms as a workup. Canadian Forces Classified Document (CFCD) 129 describes the various workup programs that a ship receives as prescribed by the intended employment by the RCN or CJOC.⁷ This tiered readiness program starts at Basic Ship Readiness Training (BSRT), continues with Intermediate Ship Readiness Training (ISRT) and culminates with Multi-Ship Readiness Training (MSRT) complete all three phases in approximately one month.

Collective training is aimed to validate proficiency in a sea environment, and effectiveness in a team environment. This form of validation of performance goes beyond the core role of the operator at sea in an Operations Room, but also when responding to other emergency exercises at sea that are directed by Sea Training. While the end product is to improve an operator's employability and proficiency at their position, the manner in which each training institution delivers and assesses the training is different. Sea Training will evaluate the effectiveness of teams during mission planning sessions, lectures facilitated by Ships' Company, seamanship evolutions, and battle problems.⁸ This is an advantage to having the lines of reporting to remain separated. This keeps STG flexible

⁷ Canada. Department of National Defence. '*Evaluation of Ready Naval Forces – Performance Measurement and Evaluation Committee Meeting*'. Assistant Deputy Minister (Review Services). 2019.⁸

⁸ Canada. Department of National Defence. '*Evaluation of Ready Naval Forces – Performance Measurement and Evaluation Committee Meeting*'. Assistant Deputy Minister (Review Services). 2019. 8

to the needs of coastal fleet commanders to deliver training in accordance with a ship's program, and more importantly, to have the direct communication with fleet commanders to signal any potential problems with performance or leadership not captured within the mandate of IT organizations.

TRAINING THE TRAINER: INVESTING IN PEOPLE

Instructional staff at fleet schools generally arrive to their units from their recent posting at sea. For example, the Officer responsible for delivering training to Above Water Warfare (AAW) students is usually a recent AWW Officer in the fleet. This is generally how military instructors are employed at the fleet schools across the country. Experience in the job, within this specialized area of warfare, is an asset for the instructor. However, experience alone is not the only factor that makes a great teacher. It is acknowledged that training institutions such as the Fleet Schools, and the Training Development Centers face pressures of scheduling courses to produce qualified operators for the fleet. Turnover of military staff is a part of every CAF institution. Consequently, newly posted staff can be underprepared to deliver or create a lesson plan that has pedagogical value to students. Although the expected duration of a posting to a Fleet School as instructional staff is 2 years, there is institutional value in educating instructors on educational methods to effectively pair with the instructor's strength of experience.⁹ Simply because a member is an expert in their field does not necessarily mean they are an expert educator. The investment in time and money to provide pedagogical teaching tools from Training Development Officers (TDOs) will serve the member long after their employment at a training institution is complete. A dedicated program to educate

⁹ Gibson, Jeremy. "The Five Es of An Excellent Teacher." The Clinical Teacher 6, no. 1 (2009). 3.

instructors will slowly, over time, create a modern learning institution, and empower these instructors to foster learning environments even when they are no longer staff at learning institutions.

For the future, the CSC is an entirely new platform. Just like previous introduction of new classes, the first hull will execute acceptance trials before being taken into possession by the RCN. Notionally, there will be RCN staff onboard the CSC during acceptance trials, although Assistance Deputy Minister (Materiel) will be responsible for the acceptance trials. Trials can last from hours, to days at sea and alongside. Each opportunity for IT and CT teams to visit the ship is one proposal for these teams to develop concepts of how the ship will be employed. STG is also responsible for establishing the routine for how a ship is organized in a fighting and functional organization, and these regulations are communicated in its publication known as Ship's Standing Orders (SSOs). The sooner that STG can begin crafting SSOs for the future fleet, the sooner training institutions can create curriculum that reflects the expectations for operators in new positions at sea. Early exposure to the CSC when afloat, and at the Land Based Testing Site (LBTS) during its acceptance trial phase should be a priority for IT and CT organizations because it affords them the advantage of time before RCN acceptance is complete.

ADAPTING CURRICULUM FOR NEW CAPABILITIES

Since Halifax Class Modernization in the 2010s, the training package for operators is meeting maturity. The class is unlikely to receive any new capability improvements until it is removed from service. There will continue to be improvements in the Combat Management System (CMS), as improvements to the software, but the

capabilities are mostly static. However, the CSC introduces capabilities never employed by the RCN. With these new capabilities will come expectations to be proficient in the use of Tomahawk Land Attack Missile, Standard Missile 2 (SM2), Evolved Sea Sparrow Missile (ESSM), Naval Strike Missile (NSM) and Sea Ceptor. The RCN is proficient with ESSM and has some experience with SM2, but not with the use of the other weapons systems. Current Operations Room Officer (ORO) training adds a module to expose OROs to the concept of assuming traditional NATO Maritime duties such as Anti-Air Warfare Commander (AAWC), Anti-Surface Warfare Commander (ASUWC), or Anti-Submarine Warfare Commander (ASWC). However, operators, maintainers, and targeting teams in other agencies such as CJOC will need education on how these new joint weapons can be employed, particularly with Tomahawk as a strike weapon.

As an example in the Above Water Warfare domain, CSC introduces a paradigm shifting SPY-7 radar, AEGIS Air Defence system, and medium range effectors such as Raytheon's Standard Missile 2. The training institutions need to begin crafting learning modules as soon as possible. The RCN has little knowledge of AEGIS, or the SPY radar family. It is expected that the CSC, when in a multinational task group environment, or in the Canadian Task Group envisioned in Strong Secure Engaged, will perform the duties as AAWC in, leveraging the capabilities inherent in the radar and weapons suite.¹⁰

With the RCN choosing the Type 26 Design from BAE, and selecting an American family of sensors and effectors with LMC's CMS 330 as the baseline combat management system, there will be competing interests for berthing allocation in the new

¹⁰ Canada. Department of National Defence. *'Canada in a New Maritime World: Leadmark 2050'*. Ottawa: Commander, Royal Canadian Navy, 2016. 43

platform. Although the Halifax Class can accommodate around 250 personnel at sea that includes a helicopter and Air Department, the CSC berthing intention is closer to 208. Therefore, it is logistical to assume that the RCN cannot simply migrate the current operator construct into CSC. There will not be enough room. It is important to note that the Halifax Class Operations Room composition, is more or less, a migration from the Iroquois Class. Modernization of the Halifax Class did not physically eliminate positions for operators, however automation did make some operators redundant. The automated features and advanced track management systems in the CSC mean that some operator positions will simply not be required. In the current construct, there are up to three track managers for the three domains of warfare. When CMS 330 is optimized, the role of the operator is reduced to manager/reviewer of the Recognized Maritime Picture (RMP), instead of a manipulator and track updater.

DRDC's report in the fall of 2021 experimented with three models of staffing in the Ops Room with different workloads¹¹. It was concluded that as little as six operators can meet the operations demand in a Halifax Class operations room that traditionally has no less than 10 CMS consoles, and positions for operators of other supporting equipment such as Fire-Control Radars and Electronic Support Measure equipment. With automation, this proves that with proper refinement of combat operator roles and responsibilities, a reduced Operations Room staffing level can meet the demands of new capability introductions. The challenge is to redefine what the combat operator is responsible to do in the Operations Room, at what rank, and how the education is

¹¹ Ho, Geoffrey. 2021. '*Optimized Crewing for the Halifax-Class Frigate Operations Room*'. Toronto Research Centre: Defence Research and Development Canada. 70.

delivered. A reduced staffing model in the Operations Room also appeases the current strain on personnel shortages in the Halifax Class to meet personnel requirements in High Readiness and Normal Readiness units.¹²

FINDING EFFICIENCIES IN THE TRAINING SYSTEM

Much like other organizations in the RCN, there are personnel shortages in the training system, particularly in the Training Development Centers (TDCs) and Fleet Schools in Halifax and Esquimalt. They are responsible for creating and delivering the training products to students. The Training Development Centers are responsible for developing the curriculum, and Qualification Standard Plan (QSP) for each course. At each coastal school, there are different courses instructed. For naval operators, the initial entry level courses are taught at fleet School Esquimalt. Junior Naval Warfare Officers (NWOs) attend their initial training at *Venture*, the training institution for NWOs. The curriculum is developed by staff at TDCs, and delivered by the Fleet Schools. Operators normally report to these training institutions at Esquimalt immediately after completing Basic Training upon entry into the CAF. Future training at each iterative experience level commensurate with rank is delivered mostly at their respective coast in a class room setting, and using combat system simulators in practical training. The notion of receiving iterative individual training at either Halifax or Esquimalt is not a new concept. This has been in practice since 2009. This benefits the sailor by remaining in their geographic area with their family and friends, and reducing the disruption of unnecessary movements in the country for training. Each course that is offered at both coasts should only have one

¹² Canada. Department of National Defence. ‘*Evaluation of Ready Naval Forces – Performance Measurement and Evaluation Committee Meeting*’. Assistant Deputy Minister (Review Services). 2019. 11

TDC centrally responsible for the preparation of course material and QSP. This effort to centralize course preparation will reduce the personnel demand for redundant staff work. Each coastal fleet school can then deliver the course material to students. Every effort should be made to find these efficiencies.

However, as the RCN transitions from the Halifax Class to CSC, there will be initial challenges from an infrastructure perspective to keep operators geographically stable when receiving instruction. With construction of CSC exclusive to Halifax, and associated project offices and LBTS in Nova Scotia, it is anticipated that early receivers of instruction on the new capability will likely be offered only in Halifax.¹³

NEW TRINITY: TACTICS, INDIVIDUAL TRAINING, AND COLLECTIVE TRAINING

One of the clear recommendations for delivering consistent and current training packages is integrating staff and products of the Canadian Forces Maritime Warfare Centre (CFMWC) into the training cycle of developing training material, and also in educating the educators on new and improved Tactics, Training and Procedures (TTPs). It is recognized that CFMWC does not have the mandate to educate and train operators. That responsibility rests with NPTG and STG. However, while the professional expectation of NPTG (TDCs and Fleet school staff) and STG to remain current on updated Maritime Tactical Instructions (MARTIs) that are released annually, the training staff would benefit greatly from in-person or secure virtual briefings and demonstrations to instructing staff from the Subject Matter Experts (SMEs) at CFMWC. Prior to the

¹³ Canada. Department of National Defence. *'A Land Based Test Capability for the Canadian Surface Combatant Project'*. Maritime Engineering Journal, Edition 98. 2021. 13

introduction of Lockheed Martin Canada's Combat Management System (CMS) during Halifax Class Modernization (HCM), the Combat Control System (CCS) configuration was fairly stable, and CFMWC's updates were mostly in text format, and the operators and training staff were generally able to understand MARTIs. After HCM, CMS 330 removed many manual tasks of operators, and CFMWC leveraged CMS 330 to automate hundreds of configuration settings that normally were the task of the operator. This means that modern tactical updates are incorporated into version updates of the CMS software that the fleet generally receives on an annual basis. Some of the changes can be rather significant, and impact how the weapons and sensors perform, but because the updates are often in the background of programming in CMS, the operators may not understand why the system is performing differently. Therefore, the explanation of tactics updates are similar to the explanation of a software update, and they are important because CFMWC is the RCN's Maritime Tactical Authority (MTA), and therefore changes to how the CMS operates with respect to tactics updates can have significant changes to warfare.

Instructional staff and TDC staff are not the Subject Matter Experts (SMEs) when it comes to MARTI explanation. Additionally, STG are also not SMEs on tactics. However, each group that is responsible for IT and CT needs to ensure that the manner in which they instruct is correct, consistent, and up to date. For context, it is routine for members of STG to have recently deployed on an operational unit. Over the duration of their employment at STG, the CMS will receive multiple updates. This requires the STG members to understand the new TTPs from MARTIs so that the student, or the operator

in a ship receives consistent quality of training that is current with the latest version CMS.

To further engrain the notion of a trinity between NPTG, STG, and CFMWC, it is recommended that the Tactics and Team Training (TTT) sub-team that was a component of the historical Canadian Forces Naval Operations School (CFNOS) be stood up once again. These instructors can focus on the traditional mandate of delivering initial tactics training to students on operations courses, developing training packages with scenarios representing areas of maritime conflict, and assessing individual and team performances over IT and CT delivered ashore. Clearly, Naval Personnel and Training Group (NPTG) needs more staff to deliver on its mandate to train operators, and TTT could solve this problem.¹⁴ This TTT organization will liaise with CFMWC on a routine basis, and CFMWC tactics staff will offer assistance to TTT for preparing training scenarios. CFMWC can continue to offer a short lecture series to senior operator courses such as the Warfare Directors courses, and the Operations Room Officer course.

CFMWC does not have, however, the capacity to become a training institution. Its mandate is development of new TTPs, and support to Commander RCN for procurement projects such as the Canadian Surface Combatant (CSC). Furthermore, the unit reports to Director General Naval Force Development (DGNFD), who is responsible to Commander RCN. Because of the unique work that CFMWC performs to support the fleet in tactics development, but also in Operational Testing and Evaluation (OT&E) of new equipment associated with new capabilities, CFMWC should remain within DGND

¹⁴ Canada. Department of National Defence. *'Evaluation of Ready Naval Forces – Performance Measurement and Evaluation Committee Meeting'*. Assistant Deputy Minister (Review Services). 2019. 24, 25.

organizational lines¹⁵. However, a very close liaison between CFMWC Tactics staff, Fleet Schools, TDCs, and STG is key to ensuring that naval operators receive modern and consistent training at the individual and collective milestones. This will become most important as CFMWC will be tasked with tactics development for the new capabilities introduced with CSC. Integration between stakeholders is the key to successful transition from the Halifax Class to the CSC.

PREPARING THE TRAINING INSTITUTIONS FOR THE FUTURE FLEET

The Canadian Surface Combatant will deliver to the Government of Canada, and the RCN new capabilities that will dwarf the Modernized Halifax Class Frigate. All of these new capabilities will require two lines of effort that will impact how they will be introduced in the fleet.

The first line of effort is to determine what the operator positions will be in the CSC. This is important because the current positional layout of the Operations Room is based on the Halifax Class, which is based on the Iroquois Class. With the introduction of Automation in CMS 330, which will be the baseline for the CMS of the CSC, the effort should be made Director Naval Personnel and Training (DNPTG) to identify what operators are in the Operations room, what their tasks are, and how they are employed. This is an opportunity to re-define the combat operator, and re-examine the skill sets required at each rank and occupation of operators. The traditional stovepipe model of principal areas of warfare may still be best suited to be managed by officers and senior NCOs based on NATO Command and Control procedures, however, the roles and tasks

¹⁵ Canada. Department of National Defence. *Structure of the RCN*. Royal Canadian Navy. 2013.

of junior combat operators does not. The challenge in defining the role of the operator is challenging because the typical tasks have been eliminated by automation. Previous configurations and manipulations no longer need to be performed by operators. Track management systems in CMS have eliminated the continuous manual track updates that used to be a requirement for maintaining the RMP. There is no longer a requirement for three Fire Control Operators and supervisors, and the task can be managed by one person. Similarly for the acoustic team in underwater warfare, the traditional team of five or six operators per watch can be reduced to two or three. Additionally, the RCN needs to educate humans on their ability to work with advanced naval weapons, radars, and with the automated features of CMS. Commanding Officers of CSC, and even the current Halifax Class need to create a degree of trust and understanding so as to maximize the performance of the CMS.¹⁶ Trust in Automation is necessary for reduced crewing models to work in CSC and even in the *Halifax* Class of today.

The second line of effort is building the training packages, and QSP for the instruction that each operator is expected to perform in the CSC. However, there is a path to accelerate the knowledge base, and that is through Canada's Five Eye partners (FVEY). This means that the RCN should make every effort to obtain TTPs associated with partners, specifically in the Five Eyes (FVEY) partnership as there are already existing relationships for information exchange. CJOC's proposal for a Pan –Domain Force Employment Concept further reinforces the intended relationships with FVEY and

¹⁶ Drnec, Kim, Amar R. Marathe, Jamie R. Lukos, and Jason S. Metcalfe. "From Trust in Automation to Decision Neuroscience: Applying Cognitive Neuroscience Methods to Understand and Improve Interaction Decisions Involved in Human Automation Interaction." *Frontiers in Human Neuroscience* (Jun 30, 2016). 2

other partners to operate, and train.¹⁷ This means not only sharing between Warfare Centers, but between learning institutions such as the Royal Navy, Royal Australian, and United States Navy's learning institutions. It is expected the CFMWC will develop TTPs to incorporate the Sensors, Effectors, and CMS when developing new MARTIs. However, it becomes the task of the training institutions to build appropriate learning models that reflect new operator positions with the commensurate rank, and expectations.

The RCN needs to obtain of the Original Equipment Manufacturer (OEM) technical and training manuals on the associated equipment. It also needs to work to obtain as much accessible information as possible while respecting International Traffic in Arms Regulations (ITAR), in such that bi-lateral agreements with the defence equipment vendors will disclose the technological details of equipment for two main reasons; first so that operators can be instructed on how to employ the equipment to the maximum of its operational limit, and second, to enable technicians to monitor combat equipment, perform maintenance, and effect repairs.

In reflecting on how other capabilities were initially introduced into the RCN, the recent HCM model was used to introduce new capabilities to operators in the fleet. Lockheed Martin Canada created learning modules for operators and technicians to learn the basic functionality of the CMS 330, and how to employ the Halifax Class in simulated threat environments at their Land Based Testing Site (LBTS) Dartmouth, Nova Scotia.¹⁸ Lockheed Martin employees delivered this training to operators. In this

¹⁷ Canada. Department of National Defence. *'Pan-Domain Force Employment Concept: Prevailing in an Uncertain World'*. Ottawa: CJOC, 2020. 18

¹⁸ Canada. Department of National Defence. *'Training Requirements, Coordination, and Challenges Associated with the Combat System Integration Design and build Contract (CSI DAB)'*. Maritime Engineering Journal, Edition 82. 2017. 37

environment, combat operators from all ranks were introduced to different functions of CMS, as their ship was scheduled to receive this training concurrent with the modernization of their ship at Halifax Shipyard, or at Seaspan shipyard in Victoria. However, these courses were only designed to train functionality of the system. It did not incorporate any of the tactics. However, tactics were not the mandate of Lockheed Martin. It was the RCN's responsibility to incorporate tactics and CFMWC delivered on that responsibility. Once the CSC's LBTS is operational in Halifax, the RCN must begin the process of incorporating key organizational stakeholders in the training institutions to get access to the LBTS. Access and familiarity of the LBTS, particularly important when considering that the US Navy's AEGIS Air Defence system will be a new capability introduced with the CSC. Operators must know the how AEGIS functions, and the most important organizations to foster corporate knowledge are the training establishments. Lockheed Martin facilitates training for AEGIS clients such as Royal Australian Navy, however their courses are held at Moorestown, New Jersey at their Combat Systems Engineering Development Site¹⁹. It is hoped that Lockheed Martin Canada can integrate some AEGIS education locally once the LBTS is operational.

While HCM was largely an upgrade of combat capability, CSC is an introduction of superior capabilities with a new frame. The learning curve will be steep. Although some of the features and sensors and weapons are modified from the original Royal Navy BAE Systems Type 26, and the Royal Australian Navy's variant, the Hunter Class, there is value in understanding and sharing some of the challenges of introducing a new class

¹⁹ Lockheed Martin. *Royal Australian Navy Officers Graduate From Aegis Combat System Training At The U.S. Navy's Combat Systems Engineering Development Site*. 2016. Accessed 2 April 2022

of ship to common FVEY partners. The Halifax Class is a unique naval platform, and there are no other users of this design. The Type 26 is different, and although there will be information sharing challenges with some nations based on ITAR, many technical and tactical learning points can be shared. This sharing of information between users will promote collaboration, and accelerate the introduction of new tactics. These new tactics will then be shared in the form of MARTIs, and enable the Training Development Centers to develop lesson plans.

ENSURING TRAINING MATCHES EXPECTED COMBAT OUTPUT

Teaching RCN personnel on how to execute operations as one common fleet is a challenge. It is a challenge because one half of the fleet is geographically located in Esquimalt, and the other half in Halifax. The Pacific fleet exercises and operates with the United States Navy, and other Asian partners such as Australia, Japan, South Korea, and New Zealand. With the exception of the United States, NATO doctrine is seldom used, and in fact the USN doctrinally prefers the Composite Warfare Commander construct for operations at sea²⁰. For the Atlantic Fleet, because of operations that are most frequent with European countries, operators largely use NATO doctrine. This speaks to the complexity of Command relationships at sea, and the unique position of Canada in the world to project to Europe, and the Indo Pacific. It poses a challenge for the training system because stove piping operators to operate simply in one construct limits employability of operators in either fleet. Naval Warfare Officers (NWOs) have a higher probability of serving in each fleet based on their career progression. This issue forces

²⁰ United States. Department of Defense. 'JP 3-32 Joint Maritime Operations'. Change 1. Joint Chiefs of Staff. 202. 40

the training institutions to orient the course material to expose operators at senior courses such as Above Water and Under Water Warfare director level courses, and the Operations Room Officer Course, to receive some exposure to both command and control models. Ultimately though, Canadian Doctrine resides with MARTIs, and then subsequent Allied Command structures. The Royal Navy seldom deviates from NATO publications and policy. It uses NATO's publications as the baseline for its TTPs, with exception of unique British Sensors and Weapons that contain information not releasable to other nations. This foundation of NATO policies for the RN affords their staffs' efficiency in developing training packages. It also propels RN Staff in the tactics organizations to influence improvements and amendments to standing NATO tactical publications.

By using NATO's Maritime Tactical Publications, each combat task at sea can be mapped out to each operator and associated duties can be captured in the future operations room. By cross-referencing traditional warfare duties and responsibilities with these tactical publications, the occupation managers of combat operators can define the tasks that are required of each operator in the Operations Room. As an example, this means that any of the supporting duties that are associated to the Anti-Air Warfare Commander (AAWC) can be suitably allocated to other operators in the ops room, in order to effectively manage workloads, and ensure that no duty or task is missed when creating each operator position's Terms of Reference.

CONCLUSION

Training in the RCN is not a 'Wicked Problem', but it is a very demanding and complex problem to keep training effective concurrent with changes in capabilities and

challenges with personnel movements within the training institutions. Some immediate changes that the RCN can make to improve the current and future training product is to educate instructional staff on effective pedagogical teaching practices, find efficiencies at the IT institutions, and re-forge a strong working relationship between Fleet Schools with a TTT, STG, and CFMWC. For the future CSC, the RCN has to lean forward in creating effective working groups with FVEY partners to leverage lessons learned from the capabilities already employed by partners. Naval Training Transformation in 2015 has triggered modernization of training delivery, leveraging digital technologies. By using affordable time now, and communicating with ADM (Mat), Director of Naval Capability Introduction (DNCI), and PMO CSC, the critical building blocks of a training platform can be created to identify how new combat operators at sea will be suitably trained on time by the IT organizations, and expertly mentored by CT organizations to meet Canada's demands to employ CSC to the maximum of its potential.

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