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Maritime Engineering Journal

Canada's Naval
Technical Forum



Since 1982

Spring 2018



Feature Article

Our People: A Service Couple in the RCN



Canada

Naval Technical Officer Spirit Award

RAdm (Ret) Mack Silver Plate



Photo by Brian McCullough

Lt(N) Natalie Mailhot-Montgrain (FMF Cape Breton Esquimalt)
(Presented by Mr. Patrick Finn, ADM (Mat))

***“For numerous incidents of incredible enthusiasm,
dedication & desire to improve morale.”***

Congratulations to runners-up Lt(N) Sam Poulin (PMO JSS Ottawa) and Lt(N) Ryan Luciano (FMFCS Halifax)

See more awards starting on page 22...



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Petty Officers Jaime and Pete Fraser, with daughters Alice (6) and Sarah (9) – a Navy family currently serving the RCN's West Coast fleet. The girls are wearing their Little Hero medals, given to kids when their service parents are deployed.

Current and past issues of the *Journal* are available online at the website of the Canadian Naval Technical History Association – www.cntha.ca

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COMMODORE'S CORNER

Building the People Journey

By Commodore Simon Page, OMM, CD
Director General Maritime Equipment Program Management

I am both ecstatic about, and proud of this issue of our *Maritime Engineering Journal*. Ecstatic because our people are portrayed in a way not done before, across the entire spectrum of functions that are performed by our technical community, and with a focus on the enthusiasm and passion continuously observed in the exercise of these functions. Proud because the visage of our occupation has significantly changed over recent decades to acknowledge and embrace the values offered to us through diversity and inclusion. It must be acknowledged that everything we work for, do, and envision is part of a much larger journey within the history of the Royal Canadian Navy and naval engineering. Our people are at the heart of that journey.

In the late 1980s, while I was completing my Maritime Engineering (MARE) summer training in Esquimalt, the first women were joining our engineering occupations. At the time, my course mates and I did not recognize that we were witnessing a momentous shift towards a stronger and more inclusive naval engineering workforce. By 1996 however, the RCN had its first female Head of Department on board a warship, leading the Combat Systems Engineering department of HMCS *Ville de Québec*. It was a wonderful achievement that paved the way for many others, while setting an example of courage and perseverance. Quite a few years later, in 2014, we had a similar success on board HMCS *Windsor* when a young woman joined an operational submarine as the Marine Systems Engineering Officer, a noteworthy example many nations soon followed.

The same phenomenon was concurrently happening with the non-commissioned members, and in 2016 we witnessed the first female Chief Engine Room Artificer on board an Iroquois Class destroyer. She provided our entire technical community with not only a superb example of determination, but also evidence that leadership opportunities in a technical field are available and possible for all aspiring women within our business. This impressive Chief ERA had previously been the first woman to join the Marine Engineering Technician Training Program.

Throughout this time, visible minority officers and non-commissioned members were joining our occupations in greater numbers – providing the complex domain of naval engineering with tangible and intangible benefits such as cultural intelligence, enhanced collaboration, and respect. I believe that fostering heterogeneous groups will increase the creativity, curiosity, and strength of our naval materiel management enterprise, and ensure that we remain outstanding as an organization, and as individuals. During our last naval technical community mess dinner in Ottawa in February, our guest speaker, Jeanette Southwood, Vice-President of Strategy and Partnerships at Engineers Canada, reminded us that with a diversified workforce we become better problem-solvers. And solving problems is what we do!

As we continue to foster our enterprise and its people, it is critical to understand that we all play a role in this journey. Everyone's actions and leadership are important, and it is worthwhile asking ourselves how we are contributing. From large mentoring activities to smaller localized events, every action counts and makes a difference. Our recent naval technical community professional development day and hockey game are perfect examples of how a couple of "small" ideas transformed into brilliant events enhancing the values of our organization and its people.

Every day I come to work I am reminded that our journey as an occupation is fundamentally about the people that make us and how we value them. And, as I approach the end of my tenure as the Royal Canadian Navy Senior Naval Engineering Advisor, I can step back and see that the last three decades have crafted a wonderful story of diversity and inclusion within our technical occupations, and have ultimately provided us all with deepened wisdom about the strength behind a rich workforce. This story must now continue to progress, as the first steps have been taken and the focus is now on ourselves.



EDITOR'S NOTES

Our People – An unbelievable depth of talent

By Captain Christopher Earl, CD

It is my utmost honour to assume the role of Senior Editor of this magnificent journal and, like those before me, I fully intend on putting my heart and soul into the creation of editions that tell 'our story,' inspire those who follow, and formally capture the history of the Royal Canadian Navy's technical accomplishments. It's a humbling and daunting task for sure, but I am supported by an incredible team with lots of experience.

Having been in this business for almost 30 years now, I've always been struck by the incredible depth of talent that exists within our community. We come from all walks of life, cultures, and backgrounds, and at the end of the day we represent – for the most part – Canadian society. The naval engineering business is a complex and challenging environment that presents no end of opportunities, within which I've always found that our uniformed and civilian personnel excel. With the support of our colleagues in industry, I believe that we are well positioned to meet all challenges as and when they arise.

While well-positioned, we should recognize that our community draws strength from its diversity as we rely heavily on the knowledge and expertise of naval technical officers, technical non-commissioned officers and sailors, public servants, and industry. We operate collectively as a defence team and as part of a naval materiel enterprise where success or failure is shared by all.

I would argue that this diversity provides a source of strength that should be fostered, nurtured and encouraged as the different perspectives, challenge functions, and

healthy competition foster innovation and novel solutions for most of the problems that our community routinely faces. Thus, this edition introduces a new feature we are calling, 'Our People.' These vignettes are intended to showcase the immense talent and knowledge that exists within the naval materiel enterprise.

To get the ball rolling, we invited several people to share their stories and photos with us in this issue and the next, and we can't thank them enough for their brave and generous participation. We look forward to hearing from others who would like to participate in this new experiment, and can assure everyone that the *Journal's* editorial team is ready and willing to assist in putting your story together for our international readership.

If you would like to share your own story, or let us know about someone else whose experience you think might shine a positive light on who we are as a naval technical community, please feel free to contact our editorial team in confidence at brightstar.communications@sympatico.ca. Contributors will always have an opportunity to review a final draft *before* publication.

We hope you enjoy!



Submissions to the *Journal*

The *Journal* welcomes **unclassified submissions** in English or French. To avoid duplication of effort and ensure suitability of subject matter, contributors are asked to first contact the production editor. Contact information may be found on page 1. Letters are always welcome, but only signed correspondence will be considered for publication.

OUR PEOPLE – SPECIAL FEATURE

Eighteen months ago, **Weapons Engineering (W Eng) Petty Officer 1st Class Jaime Fraser** was invited to address the Naval Engineering Council regarding the challenges that she and her husband, **W Eng Petty Officer 1st Class Pete Fraser**, have had to face as a service couple with a young family in today's RCN. Her compelling story, at times raw in its frankness, is presented here as she told it to the Navy's most senior advisory body on Nov. 7, 2016. The only significant change is that we have moved an edited version of her original list of observations and recommendations into a follow-up "companion" piece we asked Jaime and Pete to write for us. Together, the two commentaries offer powerful insight into how one Navy family manages on a daily basis to persevere in their proud military service to Canada. – **Editor**

Life as a Service Couple – Warts and All

By PO1 Jaime Fraser (November 7, 2016)



After years of spinning my wheels in the private sector working in the customer service arena, I joined the Royal Canadian Navy (RCN) in 2003. Three years of “excelling” in the Wal-Mart cash office convinced me that I could definitely manage three years in the military.

And then – this is no joke – I joined the Navy after finding out that we had one! This discovery made me realize that it was an opportunity to do something bigger than myself. It was important to my country – something that truly mattered.

Sign-up took place at a reserve armoury in Kamloops BC. After being convinced that Image Tech was darn near impossible to get into, and Met Tech was kind of a dead end for returning to civilian work after three years if I chose to do so, I was convinced that becoming a Naval Electronics Technician (NET) would grant me the skills and experience that I craved. I thank that recruiting officer to this day for helping me see the light.

Since joining 13 years ago, my life has been filled with interesting experiences:

- I have been posted to Halifax, St. John's, and Esquimalt.
- I have sailed on every West Coast Canadian Patrol Frigate except HMCS *Winnipeg*, and even got a couple of East Coast CPFs in the mix as well.
- I have briefly been exposed to the Maritime Coastal Defence Vessel world through the conduct of trials.
- I have also worked at the Canadian Forces Fleet School Esquimalt, had a brief stint with the Ship Repair Team working for the West Coast Detachment of the *Halifax*-class Modernization project, and now I contribute to the Fleet Maintenance Facility Cape Breton Underwater Weapons Engineering section.
- In that time I have also built a family, consisting of a service spouse and two beautiful daughters.

In all honesty, I was petrified of the idea of speaking here today. What could I possibly share with this amazing group of individuals who have seen it all, heard it all, and have years of experience? What experience could I have had that would be worth sharing and might make a difference today?

I decided that sharing my story would provide you with another perspective, and hopefully one that will get some thoughts churning towards understanding people in our situation, if nothing else. This seemed an excellent opportunity to share with you not gripes, grievances, or complaints, but simply my naval experience and observations. In this, as in so much during my career, I strive to present a positive and open side to highlight knowledge and possibilities. And so I chose one major item of import to my naval experience: Being a *hard* sea trade service couple raising a family; because, as my husband often says, when something is important enough, you find a way for it to happen.

I realize this topic is not a new one. It has likely been discussed in many ways and at many times throughout each of your careers – no matter whether it was your own experience, that of a superior, peer or subordinate, it can have varying effects on careers.



P01 Pete Fraser

My spouse and I are both hard sea trades. He signed on as a gunner (Naval Weapons Technician) and I as Naval Electronics Technician (Acoustic). We both went through the Naval Combat Systems Technical Training Program (NCSITP) in Newfoundland, aka the “super tech” program. No marriage, no kids, and no real obligations other than passing our courses made for a pretty easy start to our naval careers.

“I decided that sharing my story would provide you with another perspective [...]”

After four years we married. No big deal. A small loss in Post Living Differential (PLD) when we moved in together (75% each), and we had to make sure someone checked on our residence when we went sailing or on course. This was a reality we faced – having one- to one-and-a-half years each still left in our training, requiring time spent on board vessels to finalize our QL4 (apprentice) training packages and gain experience through sailing. Again, it wasn't a big deal, and quite manageable at that time and place.

Then we decided to start a family, and this is where it starts to get a little tricky. Pregnancy was an automatic ticket off a ship, even if you didn't want to go, because it was



Navy all the way. Pete and Jaime were married by a naval padre in Victoria on May 26, 2007, and held their wedding reception at the Fleet Club.

an instant T6 (six-month temporary medical category), unfit sea, unfit alongside. So, instantly, I became unavailable to my sea-going unit. This was disappointing for a person who wanted to be there always to support the team, but I had to accept – and agree – that it was likely the safest choice. I was also aware that a Maternal/Paternal (MATA/PATA) benefits period (likely a full 12 months) will further remove a woman from an operational venue. However, I consoled myself with the knowledge that my spouse would continue to serve in a sea-going capability, fully fit and still able serve the fleet. So at least our household was maintaining 50% operational ability! Ultimately, Pete ended up sailing and going away for courses during that first maternity leave, but that is a relatively easy time to handle by oneself. At least I was lucky enough that it was – no complications, thank goodness.

Returning to work was tough. Motherhood is a challenge that is unlike any other – you lose yourself somewhat in your dedication to your child, to their every need and want and to the growth of your new family. Don't get me wrong, I was *definitely* ready to come back to work after 12 months with a baby, but my head and heart weren't quite in the same space anymore. All things naval-related had been

tucked away for a year, and it was like brushing off the cobwebs and putting those old skills back into play. It was actually a little intimidating and overwhelming at times, but I feel that I was lucky: I was asked, after both pregnancies, to return to work early to go on career courses – the first time for my Primary Leadership Qualification (PLQ), the second time for my QL6B (now called the W Eng Maintenance Manager Technical Course). Each time I was a bit stressed, worrying about what was the right thing to do. Each time I honestly answered to my chain of command that I needed at least a short amount of time to reintegrate back into the Navy world. This was a real thing for me – pregnancy and motherhood, and balancing the needs of a family with my naval career had changed my perspectives and probably scrambled my head a little. Ever heard of “mom brain”? Yeah, it's a real thing!

So I requested deferrals, since I wasn't even off of my MATA/PATAs yet, and they were granted. This was a huge thing, allowing me to get on my feet appropriately upon returning to active duty so that I could be successful and useful to myself and to the fleet. It might seem such a small thing, but it made a world of difference to my family and me. In addition, I think it ultimately benefited the Navy more as I was able to put more of myself into my courses when I was ready to do them. In the case of my PLQ, we were lucky that my spouse was not sailing or I might not have been able to manage the early mornings and late nights that PLQ is famous for, attempting to work daycare into my daily plan.

"This was a huge thing, allowing me to get on my feet appropriately upon returning to active duty so that I could be successful and useful to myself and to the fleet."

Following this major career course was my promotion to PO2, a giant stepping stone. At this point there was no sea-going billet to place me in, and Pete was still aboard HMCS *Algonquin*, so the career manager decided it would be helpful for me to be at Fleet Augmentation (Pacific), and then attach-posted to a ship that would be alongside while my spouse sailed. I ended up on HMCS *Ottawa* as she was coming out of refit, and I had an opportunity to

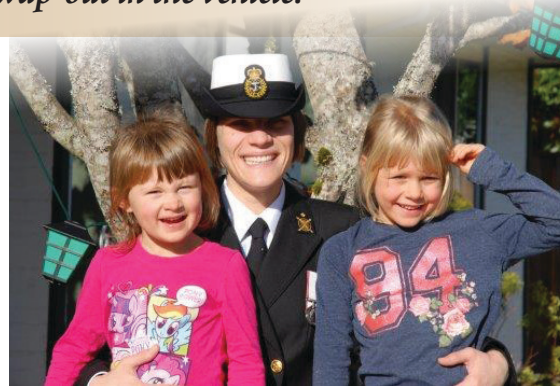
take on both my Duty Technician package (six months) and receive my W Eng QL6B Pre-Instructional Package (PIP) – an 18-month package aimed at expanding my technical knowledge to encompass the entirety of all combat systems and prepare me fully to take on the duties of the Senior Technician of the Watch. This was during the early days of the W Eng PIP and the details hadn't really been worked out yet, but they had learned from the generation ahead of me what liberal interpretations of the Qualification Standards Plan (QSP) needed to be changed. Therefore it was still evolving and was quite an intimidating package to take on, especially during the busy days of being on ship. So I worked on Duty Tech, PIP, and managed single-parenting while my spouse sailed on HMCS *Algonquin* for 4½ months. Since I was a loaner to the ship, they agreed that I did not have to stay overnight for duty watch training, but could complete the daily FIREX (fire exercise) and then head home to take care of my child alone.

In the end it worked out for everyone as the ship got a duty tech qualified in four months, I got a qualification, and my family did not suffer for it. When my husband returned from sailing that fall, I was able to stand qualified duty watches, juggling my duty watches with his. That is an entirely separate matter – yikes! Sometimes we had to arrange to have Friday/Saturday back-to-back duty watches. One of us would stand duty Friday, while the other took care of our child and then drove down to the jetty Saturday morning to do a parent swap-out in the vehicle. We made it work because it mattered to us. We always had the support of the duty watch coordinators and our chains of command, and we made sure we presented solutions to our sometimes challenging situation with duty watches.

Ultimately, I ended up completing my PIP in six months while attach-posted to the fleet school during my second pregnancy. I would not allow myself to postpone completion until after my second child. I was tasked as the scheduler for the Combat Systems Engineering Division to redo all of the schedule for the roll-out of the W Eng occupation in September 2011. I worked day in and day out reworking all of the schedules to reflect the new QSPs, booking courses and aligning the fleet school with the new program, all the while attempting to finalize my PIP during stand easies and lunch breaks, and concurrent with my husband sailing for months at a time as I took care of a two-year-old at home as well as my out-of-town parents – whose two-week visit for an operation for one of them at Victoria General Hospital turned into a two-month complication of medical woes, stress and worry. Talk about juggling and prioritizing. But like they say – that's life!

I often studied late into the evening after I put my child to sleep and cleaned the house, hoping that the information would stick when I was so tired. Thankfully that only lasted a few months – I got the PIP completed in August 2011

"One of us would stand duty Friday, while the other took care of our child and then drove down to the jetty Saturday morning to do a parent swap-out in the vehicle."



while my husband was still at sea, and just one month before I gave birth again and went on MATA leave. Thankfully, my spouse's chain of command had been entirely understanding and accommodating – agreeing to take him on that final sail with the promise of allowing him to return early for the birth of our second child. He was subsequently posted ashore for the first time in his career for an entire six months. We were grateful, but it sure didn't feel like very long. Soon he was off to HMCS *Vancouver*, sailing her into her mid-life refit.

My return to the fleet saw me briefly with the Ship Repair Team supporting HMCS *Winnipeg* in her refit at Victoria Shipyard. My next posting was to HMCS *Ottawa* for sailing, while Pete saw *Vancouver* through the pre-MLR (mid-life refit) stage, then rolled right over to HMCS *Winnipeg* to bring her out of her post-MLR through her trials stage. During this entire phase, we found a way to do double duty watches – often as many as two a week. Next I went on my QL6B and had to relearn all of the boards I had completed from my PIP of two years past, while Pete was gone for seven weeks' training in Halifax (more studying while the kids were in bed every night). When he returned, I boarded and passed my QL6B course, but there was no rest for our

family, as Pete began sailing *Winnipeg* through her sea acceptance trial phase and ramping up to deployment. It just never really let up for us.

To this point things were relatively lucky for us, in that the career manager worked with us to keep one of us ashore while the other was part of a sea-going unit. Still, there was a period of a year-and-a-half when we were both posted to ships, albeit one or the other was in refit so there was no immediate conflict for sailing. However, it was only narrowly avoided on many occasions. The duty watches were often a very big struggle. Deals had to be worked out and compromises made. For instance, we had to sacrifice almost every single Saturday for months on end to allow me to fulfil my obligations to my ship while my husband sailed on his ship, coming back for the occasional weekend every few weeks. We made it work, we did our best, and we were up front with the situations and with possible solutions. But it wasn't easy by any stretch of the imagination.

By now we had both been sailing off and on, one or the other of us, for nine years straight, and we were tired. Our operational tempo was not crazy, but when you are either sailing or at home single-parenting, away on course, or managing a household alone, you get tired. We were both feeling it when my spouse ramped up on *Winnipeg* to deploy in 2015. In order to mitigate our family situation, the career manager posted me to FMF Engineering, which in itself did not pose any major concerns, aside from occasionally having to go to sea for one to four days while not having a spouse at home (Hello Family Care Plan – Mom, can you fly out to take care of my kids again?).

"I cannot count how many times people have asked me: 'How do you guys do it?' All I can say is, 'I don't know.'"

No, it wasn't the posting situation that posed the greatest hurdle, although I did have to call on my mom to fly in twice in seven months so that I could sail for a few days. That deployment was just when our luck ran out a bit as we experienced some major challenges with our younger daughter, only three years old when Dad left. We had to pull her out of daycare and figure out how to deal with a new and very serious problem; a problem that knocked out a major pillar of my stability while my spouse was gone –

daycare! I had to fly a family member out to live with us for the remaining five months to help care for my younger child while I fell deeper into exhaustion, frustration, and depression, seemingly without end. My chain of command was great in allowing me to be removed from any external duties such as parades, or external taskings. I did my best to make it through this challenge until finally falling too far behind and needing help from the medical system. I am only just recovering from Pete's time away and he has been back for 10 months. Happily, things are coming around. We are almost whole again, but when something affects your family so deeply, the time to heal is increased, as well as the anxiety of perhaps repeating the experience.

"By now we had both been sailing off and on, one or the other of us, for nine years straight, and we were tired."

These types of situations cannot necessarily be foreseen. However, I believe we could have mitigated the challenges in a few ways – such as there being some time ashore together for service couples before one deploys, and a stable shore posting for the one left at home.

I cannot count how many times people have asked me: "How do you guys do it?" All I can say is, "I don't know." Truly there are days when I don't know how we keep driving to the Dockyard and stay signed on for the same challenges day in and day out. How do we account for the almost 1,000 days of sea time between us, the over 1,000 days of absences for training and out-of-area taskings, the family problems, the health problems, the tears and frustrations of keeping up at this pace?

But we care about what we do. We are dedicated to the RCN. We care about our people, our units. We care about making a difference for the better. We are here because we love what we do. But when it gets tough, it can get really, really tough. Not the kind of call-home-and-cry-to-mom tough, but the ready-to-throw-in-the-hat-and-quit tough. I have thought about leaving the Navy – I won't lie – but it is because of the great people I have worked with – the supportive chain of command seeing us through the tough times, the career manager finding a way to make it work for us to survive – that we have been able to hold on this long and to keep holding on. It isn't easy. That is why so many

service couples don't remain as service couples. But we call ourselves a success story, and I hope I have clearly outlined today the ways that we were able to make it a success story. We hope to keep being successful for the other half of our careers.

We sympathize with those service couples that have not made it, because we know this is a hard way to live. We know at least three W Eng service couples where one member released. The RCN lost a great amount of technical knowledge and experience when it lost one half of each service couple. That is something that it cannot afford to lose at any point – especially as these people often release around the MS or PO2 level.

This is what I present to you as something that we can be aware of and help our service couples with. They may be in the minority, and they are wholly responsible for the

choice to be a service couple and to start a family while in the Navy. However, they can also be seen as an asset, and the RCN does have control in affecting their choice to make it work or to toss in the hat and move on.

Service couples do need support, as all members will throughout their careers. They might need it in a different way, and over as far-reaching a period as to encompass their entire careers. Above all else, support and understanding will help them succeed. We are the proof of this – and we are still here doing what we do best.



Companion article from the Frasers starts on the next page



A happy family outing to the grounds of Royal Roads University, historic site of the former military college.

OUR PEOPLE – SPECIAL FEATURE

Service Couples Work Hard to Keep Things on an Even Keel

By P01 Jaime Fraser and P01 Pete Fraser

Ever since all military trades were opened to women in 1989, with the exception of the submarine service (2000), hard sea trades have seen an increase in gender diversity. It is not surprising that this contributed to an increase in service couple relationships in the Royal Canadian Navy (RCN). All service couples, whether army, air force or navy, face additional challenges unique to their service couple status, but hopefully also a few perks.

The Canadian Armed Forces in general is working to focus more on family support in an effort to help their members better balance career and home, and improve the quality of life for its sailors, soldiers, and airmen. This is a very positive change, and one that is very much affected by a member's operational tempo. Every member, in some capacity, has an operational tempo, and with a service couple, it is important to consider both members' operational tempo. For example, if you consider a typical scenario for a sailor posted to ship, excluding extra duties such as training, parades or taskings, the sailor may be away from home for 100 to 150 days in a typical year. If this sailor were to do this for a three-year posting, that's the equivalent of one entire year away from family. That sailor will then hope for a break ashore to relax and enjoy family – another three-year posting, but one where they are home every night.

Unfortunately, any children in that household will deal with a single-parent situation for a significant part of their childhood, as well as the consistent turmoil of always having one parent disappear for months throughout the year. When one is in a position as a single parent, with no spousal backup, and working full time, it is definitely a challenge. In our case we had one of us at sea every year from 2006 through to 2016.

There are benefits on the social side. Most male sailors don't ever get to experience life as the one at home, while their spouses go to sea. From our point of view, it is our combined opinion that the member at home has the toughest job. At sea, you are surrounded by trained, mature people who operate within an organized hierarchy. Depending on your family dynamic at home, you may



Pete and Jaime on board the retired Navy destroyer HMCS *Fraser* at Bridgewater, N.S., shortly before they were married in 2007.

instead have a mundane daily routine with drop-offs and pick-ups and lunch packing and bedtimes, and your "crew" may consist of small children who cannot reach the bottom shelf of the fridge. When you are at home you don't get an "off" watch. This dual perspective of the life of a sailor at sea versus a sailor at home has helped us to share conversations with our peers to help shed light on their own family challenges, usually expressed by their partner at home who is having a hard time. Who knew our experience would come in handy in this way?

Compromise: The Key to Success

In our case, compromise is a way of life, especially while we were both posted to ships during a time with small children at home. We have never faced a situation where one of us needed to be landed from a ship because the other was at sea, but we have had close calls. Most people would expect that balancing sea time is the hard part, and it is, but I would argue that managing duty watches was equally difficult. When planning sea time, you have a start date, an end date, and you can formulate a plan. When negotiating duties ashore, unfortunately it is not always

as simple. On numerous occasions we had to recommend solutions to duty watch coordinators, or negotiate specific duty watches so we could complete our fair share of watches, but also be available to manage child care timings or home emergencies while one of us was at sea. In most cases, we would sit one-on-one with our duty watch coordinators, calculate how many duty watches were required, and then do as many as three a week before the other sailed, and three a week upon their return.

Despite our best efforts we have noticed that if one of us is posted to a shore unit, it suffers a bit more from the home life complications. For example, if the ship is at sea, and your child is sick, the shore unit may lose the member from the workplace during that time. It may not be easy for the shore unit to juggle those required absences, but it does allow the member the opportunity while ashore to focus on family and stability.

It's also important to know that there are a lot of scheduling challenges that service couples face. Supervisors may want to support service couples as much as possible, but it cannot be to the point of giving preferential treatment and consequently creating a situation that is unfair to others. Members choose to become part of a service couple, and choose to start a family as well, and in doing so, they invite these challenges into their life. They do need to be responsible for the consequences of those choices and put forth effort to mitigate the problems that may arise. But, that doesn't mean that their supervisors are exempt from looking out for their welfare. As it is with any member, supervisors also have a responsibility to accommodate them as much as is practical, and as remains healthy for the unit. This is why we highlighted the duty watch example. It illustrates that it was possible to remain fair to the rest of the unit by allowing us both to complete an appropriate number of duty watches via an accommodation that also allowed us to meet our family obligations. You may have to think outside the box to find a solution.

Family Care Plans are not all equal

The Family Care Plan serves a purpose in ensuring that all members with a family situation requiring their involvement are accounted for with a back-up plan in the event the member is called away on duty. While intended to cover all possible duty absence scenarios, the main focus is its use during more emergent situations, operational deployments, or short-term duty requirements. However, while members plan and acknowledge the need for the plan, it is still not always something that can be easily implemented. For example, in our case, we do not have any roots in Esquimalt

or Halifax, and we do not have a large family network to draw on. With no family in the area, we have had to pay to fly in a grandparent to watch our kids when we both had to be away. Thankfully we have not had to do this very often.

Career Juggling

When it comes to career progression, service couples have to manage their expectations. They may have to give up CAF opportunities or even defer courses to allow the other to succeed. When you move into more senior positions, you will need to take more positions in the strategic realm of the CAF, and that may mean short-notice taskings and long hours that will extend your breadth of knowledge, but may not fit into your family plans. In many cases one member will take fewer career opportunities in order for the other to participate in more.

Pressure to Release

When you consider all of the competing priorities that service couples face during their careers, something has to give. Often the choice is for a member to sacrifice his or her career in the CAF. Many couples simply choose to have one or both release, and pursue a career that does not have as many demands.

There are two main reasons for our success. One is the outstanding cooperation from our respective chains of command and career managers. Without their support we could not have made it as far as we have done. The second main reason, we believe, has been luck. Put simply, we got very lucky with ship refit schedules, MATA/PATA timing, and promotions. While we never had to face two high-readiness sailing schedules at the same time, we did not come out unscathed at the end of our nine years of continuous sea time. The cumulative effect of so much time away had real impacts on our family, and we needed every minute of our 15 months ashore together. However, as of this writing, we are ramping up our family for another sailing cycle, where one of us will be on ship for two years, and then we will switch. Now that we are PO1s, the ship-shore ratio is much more favourable, but we still need to do our part.

Career managers can have a huge impact on the health and success of their service couple members by attempting to get them both ashore together for a short time every few years. It will allow the RCN to retain these highly trained members, instead of burning out one or both of them. If pressed too hard for too long, the RCN will lose these valuable members. We understand that service couples cannot have special treatment, and the Navy's needs will be

first priority, but service couples do experience additional hardship over non-service couples and this should at least be considered.

Here are a few observations:

- Service couples may be at a higher risk for release because of the extra strain on their health and relationships from dual sailing/separation.
- Service members often do not have family in the area of their home port division, and this lack of familial support weighs heavily on their ability to carry out concurrent taskings. Family care plans can be abused through excessive service requirements – and that is when strain on family really starts to show.
- Service couples often have to compromise to achieve a balance in their careers – time at sea, time on course, and time on extracurricular activities (base sports teams, Nijmegen march, staying late at work if required) – as they are often relying on one parent being able to mind the kids.
- It would be beneficial if there was a clear understanding that one or the other unit may suffer a slight loss in capability of their member due to the impact of the service couple (with kids) relationship – most noticeable when trying to work out duty watches or other requirements outside of an 8 a.m. to 4 p.m. workday when one member is away.
- The operational tempo of having one member at sea heavily affects the partner at home who is working full-time *and* taking care of the family, experiencing their own "At Home" op tempo. Therefore, there is no real rest or recovery period whether you are at sea or at home.
- Sea to shore ratio, regardless of the ratio that is maintained, may never cease for a hard sea trade service couple, as one or the other may always be on a vessel (high-paced). Some guaranteed time ashore together may be a solution to help them to recover and experience something resembling a normal life for a short time.
- When one half of a service couple reaches burn-out or disillusionment, the other is affected significantly. This is often when talk of taking release from the service by one or both members starts up.

Not to present all negative aspects, we must look at some positives that are brought to the table with service couples:

- The number one benefit is shared corporate knowledge and, in the case of couples in the same trade, there is opportunity to share trade-related knowledge and

experiences. This is a huge success for us, and we think it shows in our progression through the ranks. Between us, we have experienced the majority of naval taskings out there and shared that knowledge. Yes, we do chat at the dinner table!

- The RCN retains two highly qualified personnel with shared knowledge.
- There is the potential for a “two for the price of one” deal for cost moves related to postings inland (big cost savings with very minimal impact to the family unit).
- Service couples have an understanding of the life of a sailor and service demands. This simplifies the day-to-day requirements of Navy life and minimizes family issues regarding lack of awareness of what a sailor does. If you have ever sat in on a coffee night at the Military Family Resource Centre and listened to the spouses who stay behind while their loved ones sail you will know what I mean.

Conclusion

The intent of this article is not to solicit special treatment for service couples, but rather to highlight an “at risk” population of the CAF – the challenges they face, as well as the strengths they possess. The decision to become a service couple is a choice made by the individuals, and it is up to them to bear the burden of their decision. However, that being said, the CAF can do more, and in many cases do better to work with service couples, and find solutions that can benefit all. There is a responsibility of naval service couple members to go to sea, and carry out their duties within tactical units, but the CAF must strive to do its best to ensure the health and continued well-being of those members and their families ashore.



PO1 Jaime Fraser returned from sea in March as Weapons Engineering Technician Manager on board HMCS Vancouver. (She is scheduled to be deploying again in April for a 4½-month trip to the Asia Pacific region). PO1 Pete Fraser is a Weapons Engineering Technician Manager at the Naval Fleet School (Pacific). Both are recipients of the prestigious HMCS Sackville Award as top W Eng QL6B course graduates. Their daughters, Sarah (9) and Alice (6) are doing fine, and glad to have all possible opportunities to spend time together as a family with both Mom and Dad at home.

OUR PEOPLE

Rave reviews about the Navy led to the right career-change decision

By LCdr Susannah Chen

By the time I was getting close to finishing high school, I was desperate to get out on my own. I always wanted to do something meaningful with my life, so it was never a question of not going to university but rather a question of how to pay for a post-secondary education, and what that “meaningful something” would be.

I had first heard about Royal Military College (RMC) during a university fair the year prior to graduation. I remember walking by and thinking that it was super cool, but I would just keep walking because it was not for me. No one I knew was in the military, I didn’t speak French, and I was not particularly athletic or fit, though I did have decent grades and was involved with some school extra-curricular activities and clubs. In our final year, a classmate who was in Air Cadets was applying for RMC and convinced me that I should as well. I didn’t have anything to lose by applying, but did have a lot to gain and there would be drastic changes in my life and life direction if I were to get in.

My application was accepted and I enrolled under the Reserve Entry Training Plan (RETP). In all honesty, I joined the Canadian Armed Forces without really knowing how my life would change or what the job entailed. I recognized though that there were risks associated with what I was signing up for and that I was the only one in my graduating class doing this.

I voluntarily transferred to the RCN in my second year at Royal Military College. I had joined in 2001, right after high school. I was enrolled as a Communications and Electronics Engineering Officer (CELE), wearing the Air Force uniform. I had been pondering about the possibility of transferring all through the first year – but it was deciding what occupation to transfer into.

I had little interest for the Army. After basic training, I didn’t want to ‘sleep under the stars’ unless I did so on my own terms. For one thing, mosquitos and I had never made



"I had little interest for the Army. After basic training, I didn't want to 'sleep under the stars' unless I did so on my own terms."

friends – though I know they adored me! I had always said I would not join the Navy because I couldn’t imagine spending six months on a ship deployment – living, working, and hanging out with 300-odd people in the middle of the ocean with nowhere else to escape to!

However, I had two close friends at the time – one a Maritime Surface and Sub-Surface (MARS) officer and one a Naval Combat Systems Engineering (NCS Eng) officer – and both of them were the most enthusiastic naval officers I knew. They could talk my ears off about how awesome the navy was. Nevertheless, I still wasn't sold on a seagoing career.

At the start of my second year, I talked to a fourth-year cadet in Marine Systems Engineering (MS Eng) in my squadron who had spent his summer sailing in Southeast Asia as part of the Naval Engineering Indoctrination Phase. He recounted stories of how amazing the port visits and the whole experience had been. I was immediately drawn and it was literally a change of mind overnight about the navy. So that was it. My decision was made and I transferred to be an MS Eng officer.

I am currently working in the Fleet Management Section of DGMEPM as the RCN Governance/Corporate Remits Coordinator. I like that the technical branch is a small, close-knit community. Everyone at all rank levels is extremely approachable and always ready to jump in to help. I like that as a branch we have many avenues for career interests – whether that is supporting the existing fleet from DGMEPM or from the coasts, in a coastal/operational capacity, being involved with capital projects, or occupational/branch-related roles.



In my current position, I like best that it allows me to develop and grow in the area of strategic thinking. Along with a small team, I coordinate and chair a group that

"I like that the technical branch is a small, close-knit community."

works with MEPM and coastal personnel to resolve various materiel sustainability issues. At strategic levels, I must decide what issue to bring forward to higher-level governance meetings and how to resolve the issues that are being passed down to our working group. As the MEPM RCN Quarterly Report Coordinator, and also now beginning to coordinate the reporting for the RCN Strategic Plan 2017-2022 initiatives that fall under DGMEPM, I am required to think strategically on how to execute the requirements and what messages to include in these reports as they are read by the Commander RCN.

As for my personal background, I was born in China and grew up in a small village near the city of Guangzhou (also commonly known as Canton). Seeking a better future for their three children – and with extended family already living in Toronto – my parents moved us to Toronto in January 1994. I was 11 years old at the time. It was a complete cultural shock, arriving in the midst of a Canadian winter, getting used to the food, and the language barrier. Despite that, I have many fond memories of being a kid in Toronto. Some of my favourite memories include climbing up snow banks piled next to a McDonald's parking lot, having snowball fights, eating such strange food as McDonald's hamburgers for the very first time, and devouring a Hawaiian pizza while thinking it was the best thing ever invented.

Today, I enjoy kicking back, having a cup of tea and catching up with good friends and good company in local coffee shops in town. Friends and I try to hike in Gatineau Park regularly in all seasons except winter. I am a fair-weather cyclist and enjoy biking around town with my husband. On a day-to-day basis, I typically do some running and yoga for exercise.



OUR PEOPLE

A life-long fascination with the military led to a naval career

By Lt(N) Ankit B. Kothyari

When asked how someone born in Mumbai, India and raised in Edmonton, Alberta would end up in the Royal Canadian Navy, I reply that as far back as I can remember I have always wanted to join the military. Perhaps part of it comes from the fact that both of my grandparents were in the armed forces in India – one in the navy and one in the army.

The challenges one faces in the military have always appealed to me. The RCN was the obvious choice as I loved the water – and they have the best uniforms! I can't really remember when I made the decision to follow this career path, but we moved from Edmonton, where we had lived since I was six years of age, to the Greater Toronto Area, and somewhere along the way I decided it was the navy life for me.

At any rate, I did a fair amount of research and learned about the Regular Officer Training Plan and the Royal Military College of Canada. I ended up attending both RMC Kingston and Collège militaire royal (CMR) Saint-Jean, graduating in 2014.

In my current role as the *Victoria*-class Repair Work Period Coordinator, I enjoy the opportunity to visit the West Coast and interact with submarines. Having completed my training on the East Coast on board HMCS *Charlottetown* and HMCS *Ville de Québec*, I had little previous experience with either that part of Canada or submarines.

The challenges faced in the underwater world are widening my horizons and allowing me to garner an appreciation for our boats. Travelling to the West Coast allows me to reconnect with fellow NTOs, gain first-hand technical experience with submarines, and foster relationships with those who work with them – either in a military or civilian role.

My love of water goes beyond my job. My family vacationed a lot in the Caribbean, so I got interested in scuba diving at a fairly early age. On one of those visits, when I was 15, I got my qualifications. I enjoy exploring wrecks in the Caribbean and off Hawaii whenever I get the opportunity.



Another passion of mine is motorcycling. That's been a part of my life for as long as I can remember. My pride and joy is a Suzuki SV650 that I love to ride whenever I can. While undergoing engineering training at HMS *Sultan* in England, I had the opportunity to vacation in Italy where I rented a motorcycle and rode around the countryside for a week. This was definitely one of the most beautiful and exciting motorcycle experiences I've ever had.

Other than the career and the hobbies I've mentioned, my other enjoyments include spending time with my dog Kush – a 135-pound St. Bernard/Poodle cross – and getting out to the various festivals and events that occur frequently in Canada's National Capital Region when I'm not travelling for work or vacation.

People have asked me how it felt to leave my homeland at an early age and settle in a new and strange country. I have to tell them in all honesty that I don't remember back that far. Canada, in my mind, has always been home and I am glad that my parents made the decision to come here. The opportunities we have had might not have been possible if they hadn't made that move.





FEATURE ARTICLE

NAVAL FLEET SCHOOL ATLANTIC MAR ENG QL6 COURSE TECHNICAL SERVICE PAPER ADAPTATION

Editor's note: The QL6 course technical service paper gives senior non-commissioned personnel an opportunity to develop their ability to study a technical problem, devise solutions, and present their findings. It is a valuable training project and no small challenge. The *Journal* is pleased to support this important initiative.

A Proposal to Change RTU Cooling on Board *Halifax*-class Ships

By MS Nicole Forrester

[Supporting references are contained in the author's source document.]

If there was a way you could better protect your brain from serious injury while playing sports, would you? I think it is safe to assume the answer to this question would be an overwhelming yes. I want you to consider this as you continue to read the following proposed technical service paper. In the situation that I am about to present to you, RTUs (remote terminal units) are considered the brain of the ship, and the game would be any mission or deployment the ship is tasked with. In order for the ship to successfully complete any task, it is important that each RTU is operating correctly and efficiently.

One assumption to be noted is that any changes to the existing cooling system on the RTUs will require the support of the supplier, L-3 MAPPS, based on the in-service support contract currently in place for the Integrated Platform Management System (IPMS). It should also be pointed out that a complete cost estimate and schedule for installation of the proposed changes to the RTU cooling system was unavailable from the planners at Fleet Maintenance Facility Cape Scott (FMF CS).

Technical Background

The purpose of an RTU is to act as an interface between the ship's machinery control system and the IPMS. Each RTU is capable of collecting data from sensors and actuators, and issuing commands. All RTUs are fitted with a VME Digital Microcomputer (VDMC) circuit card that contains and executes IPMS software, and a mix of different input and output circuit cards (Figure 1) for data collection, signal processing, and executing commands.



Source: Primary

Figure 1. RTU Circuit card assembly

RTUs 1 to 9 are located in the four machinery spaces on board ship – RTUs 1 and 2 in the forward auxiliary machinery room (FAMR), RTUs 3, 4 and 5 in the forward engine room (FER), RTUs 6 and 7 in the after engine room (AER), and RTUs 8 and 9 in the after auxiliary machinery room (AAMR). RTUs 10 and 11 are electrical switchboard controllers, with one of them located in the forward switchboard and the other in the after switchboard.

Each RTU is responsible for different machinery systems and functions. The following list describes the primary function of RTUs 1 to 11:

RTU 1 – Diesel Generator #1 enclosure fire-detection and extinguishing

RTU 2 – Diesel Generator #2 enclosure fire-detection and extinguishing

RTU 3 – Critical RTU, Engine sequencer (ESEQ) for starboard gas turbine (GT) engine, Standby control of controllable reversible pitch propeller (CRPP) system

RTU 4 – Critical RTU, ESEQ for port GT, Standby control of CRPP system

RTU 5 – Monitoring of main gearbox bearing temperatures

RTU 6 – Vibration monitoring for gas turbines, Propulsion diesel engine (PDE), CRPP, and main lube oil pumps; Monitors PDE Scrutomat for reading engine bearing temperatures

RTU 7 – Controls PDE; Primary control of CRPP system, control application software (CAPS), and propulsion schedule coordinator (PSC)

RTU 8 – Diesel Generator #4 enclosure fire-detection and extinguishing

RTU 9 – Diesel Generator #3 enclosure fire-detection and extinguishing

RTU 10 – After switchboard

RTU 11 – Forward switchboard

The Problem

RTUs play a critical role in the correct operation of the ship's main and auxiliary propulsion systems. Currently, the RTU's method of cooling is an internal fan tray assembly (Figure 2) that contains two or three ball bearing fans that use 24-volt DC power. If the RTU were to overheat, it could cause damage to electrical components and eventually fail. In order to possibly prevent a failure due to overheating, each RTU is fitted with a sensor to measure internal temperature. If the temperature of the RTU rises too high, a warning signal is sent through IPMS to the machinery control room (MCR) watchkeeper. With the current system configuration, there is little that can be done to rectify an overheating issue. The fan tray assembly is the only method of cooling provided for the RTU. The watch-



Source: Primary

Figure 2. RTU Fan Tray Assembly

keeper might consider having the IPMS technician open the RTU and set up an external fan to blow in cooler air from the engine space, but this could cause multiple other issues by introducing oil mist, dust, debris, and moisture into the sensitive electronic components of the RTU.

The issue of an RTU overheating is not expected to occur when a ship is conducting operations close to home port. This issue would most likely occur when the vessel is deployed on a mission or tasking that requires the craft to operate in hot climates where seawater temperatures rise above 20 degrees Celsius. With a rise in seawater and ambient air temperature, it can be expected that equipment in the machinery spaces would run hotter; therefore, the spaces will see a drastic increase in temperature. This will also increase the operating temperature of the RTU. The cooling fans are unable to control the temperature inside the RTU; they just recirculate the already hot air. This is when overheating would occur.

Criteria for Solutions

Any proposed solution must provide an alternate source of cooling for the RTU in situations where the enclosure fans do not provide adequate cooling. It must be compact and cost-effective, and be compatible with the ship's low-pressure (LP) air system. In addition, it must be able to maintain the RTU temperature between 0 and 50 degrees Celsius – the operating limit of the circuit cards used in the RTU – without causing damage to the RTU, or introducing sources of contamination such as liquids. Both of the following options meet the criteria required to supply supplementary cooling to the RTU when the fan tray assembly is not able to maintain the temperature of the RTU within acceptable limits.

continued on next page

Option A – Install a Cabinet Cooler using Vortex Tube Technology on each RTU

This would involve the installation of an EXAIR NEMA 4X cabinet cooler (Figures 3 and 4). The unit would be installed on the top part of each RTU through an ordinary electrical knockout, and would use the ship's LP air system to provide the cooling air needed for operation. The system would require minimum maintenance because the unit contains no moving parts, is made of stainless steel, and is resistant to corrosion.

The installation kit would include a cold air distribution tube to ensure cooling to the whole RTU, and a compressed air filter to eliminate water, oil, or other contaminants from entering the RTU enclosure through the LP air system. The cabinet cooler is capable of maintaining the temperature of the RTU below 49 degrees Celsius with supply air pressure between 5.5 and 9.5 Bar; the maximum pressure for the system is 17 Bar. The cabinet cooler also requires a flow rate of 0.13 cubic metres per minute – easily within the 4.3 cubic metres per minute flow rate capability of a single LP air compressor. An isolation valve installed on the inlet side of the cabinet cooler would isolate the LP air to the cabinet cooler when there is no need for extra cooling to the RTU. This valve would also be used in case of a failure of the cabinet cooler itself.

In order to complete this modification there would need to be piping added to the LP air system to provide the necessary cooling air for the cabinet coolers. The control shop would be required to assist with the installation of the cabinet coolers. FMF CS would be required to complete an on-board survey to determine the exact amount of work involved and the overall cost of the modification.

The cost of each EXAIR NEMA 4X cabinet cooler is \$754, and the ship would require nine to be installed for the RTUs located in the four engine spaces, with two spares in case of failures or installation issues. The two RTUs in the switchboards do not require extra cooling.

A concern that could arise with Option A is that when the cabinet cooler is in use, LP air will be constantly applied to the RTU. This means that there would be a waste of LP air when the temperature of the RTU is within normal operating parameters between 0 and 50 degrees Celsius, and the cabinet cooler remains in operation.



Figure 3. EXAIR NEMA 4X cabinet cooler

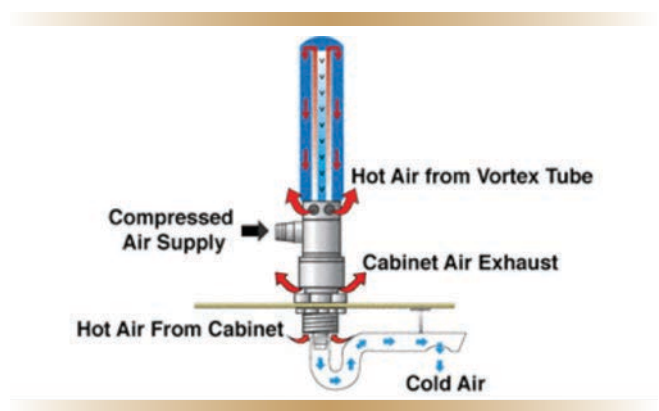


Figure 4. EXAIR NEMA 4X cabinet cooler operation

Option B – Install a Cabinet Cooler using Vortex Tube Technology with Thermostat and Electronic Temperature Control on each RTU

Option B is very similar to Option A – the only difference being that a thermostat and electronic temperature control unit would also be installed (Figure 5) to eliminate the issue of wasting LP air when the cabinet cooler is in operation. When the temperature of the RTU is within the correct operating parameters, the thermostat and electronic temperature control unit would stop the flow of LP air to the RTU. This flow would remain stopped until the internal temperature of the RTU rises to a set point, at about 45 degrees Celsius, where the thermostat and electronic temperature control unit would once again allow the flow of LP air to the cabinet cooler to maintain the temperature of the RTU below 50 degrees Celsius. The EXAIR NEMA 4X cabinet cooler with thermostat and electronic temperature control unit costs \$1520, and would have to be hooked up electrically.

Summary and Recommendation

The RTUs act as an interface between the ship's machinery control system and the IPMS, and can be considered the "brain" of the ship, responsible for collecting data from sensors and actuators and issuing commands. If an RTU fails, the ship's operational capability will be affected. Therefore, it is important that there be a backup system for cooling. This report presents two options to aid in cooling of RTUs on board *Halifax*-class ships when the current method of cooling provided by the fan tray assembly in the RTU is unable to keep up when the ship is operating in warm or hot climates, or if the fan tray assembly fails and no replacement is available. Ships are currently entitled to carry only one spare fan tray assembly on board.

Although both proposed options meet all the criteria set forth, Option B is recommended over Option A because the demand on the LP air system would be decreased, and



Figure 5. EXAIR NEMA 4X cabinet cooler with thermostat and electronic temperature control unit

control air would not be wasted. It is recommended that an Engineering Change (EC) be submitted to have FMF CS complete a survey for the proposed secondary method of cooling installed on board one *Halifax*-class ship as a trial. Upon completion of the trial, if results are successful, then the EC should be completed on all *Halifax*-class ships.



MS Forrester is currently on maternity leave outside Halifax, and will be returning to a ship in July to begin her Cert 3 Engineering Officer of the Watch training. She and her husband, Navy fire-control technician LS Kyle Forrester, welcomed their first child, baby boy Hayden, into the world on July 1, 2017 – Canada's 150th birthday! Nicole says they will tell their son that the Canada Day fireworks are actually for his birthday... at least until he's five.



BOOK REVIEW

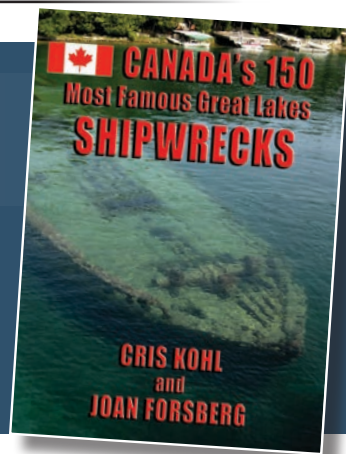
Canada's 150 Most Famous Great Lakes Shipwrecks

Reviewed by Tom Douglas – Associate Editor *Maritime Engineering Journal*

Seawolf Communications, Inc., 200-3388 Sandwich Street, Windsor, Ontario N9C 1B1

ISBN 978-0-9882947-4-5 (Soft Cover - \$19.95)

224 Pages: 400+ black-and-white images; maps; bibliography; index.



The husband-and-wife team of Cris Kohl and Joan Forsberg came up with a unique way to commemorate the 150th anniversary in 2017 of Canada's founding as a nation – listing the 150 most famous shipwrecks in the Canadian waters of the Great Lakes.

The authors were clever in prolonging the shelf life of the publication, however, by using a Canadian flag emblem on the cover rather than the Canada 150 logo. And why not since shipwrecks are timeless, and the accounts of these tragedies are as gripping this year as last.

While most of the vessels mentioned in the book are peacetime passenger ships, freighters, ferries, barges and tugboats, there are a number of ill-fated craft featured that will pique the curiosity of amateur and professional military historians alike.

For instance, the fate of two trawler-minesweepers built for the French Navy in what was then called Fort William, (amalgamated with Port Arthur in 1970 to form the city of Thunder Bay, Ontario) during the First World War is still unknown. The *Cerisoles* and the *Inkerman* left the Canadian Car and Foundry Company yard in the teeth of a Great Lakes gale on November 23, 1918. Their combined French crews totaling 76 men, along with two Canadian pilots, were never heard from again. Ironically, the war had ended 12 days earlier.

Two United States merchant schooners, converted to military vessels during the War of 1812 between Great Britain and the US, were not equipped to carry extreme weight like navy personnel and their armament. The 112-ton US merchant schooner *Diana* – renamed the *Hamilton* and armed with 10 cannons – and the 110-ton former British merchant schooner *Lord Nelson* – captured by the Americans

two weeks before war was officially declared and outfitted with nine cannons – got caught in a squall on August 8, 1813 and sank in Lake Ontario off St. Catharines. Only 19 men out of the combined crews of 72 sailors survived.

The sinking of these two ships featured the greatest single loss of life on the Great Lakes during the War of 1812, outnumbering the lives lost in the Battle of Lake Erie a month later.

Thankfully, no lives were lost when a large wooden tug originally built at Wilmington, Delaware as a Union gunboat during the tail end of the US Civil War caught fire off Victoria Island near Thunder Bay. Shipping experts consider it almost miraculous that a wooden vessel built in 1864 could remain active into the 1920s – outliving most of the people born the year it was constructed.

One Great Lakes steamer, the 4,244-gross-ton, steel *North West*, has the dubious honour of figuring in tragic events connected with both world wars. Built in Cleveland, Ohio in 1894, it burned in the harbour at Buffalo, NY on June 3, 1911 and sat idle for years until the US entry into the First World War in April, 1917. The declaration of war led to a decision to cut the ship in two and float the huge pieces through the Welland Canal to get them to the Atlantic coast where they were to be joined back together. Unfortunately, the bow section sank in a storm with the loss of two lives. The stern was rebuilt as the *Maplecourt*, which fell victim to a U-boat in the Atlantic on February 6, 1941 during the Second World War.

Canada's 150 Most Famous Great Lakes Shipwrecks contains stories of daring rescues and incredible tales of survival, with new details about some of the better-known shipwrecks such as the *Edmund Fitzgerald* and the *Noronic*. And as the press release also promises: "Find out about the

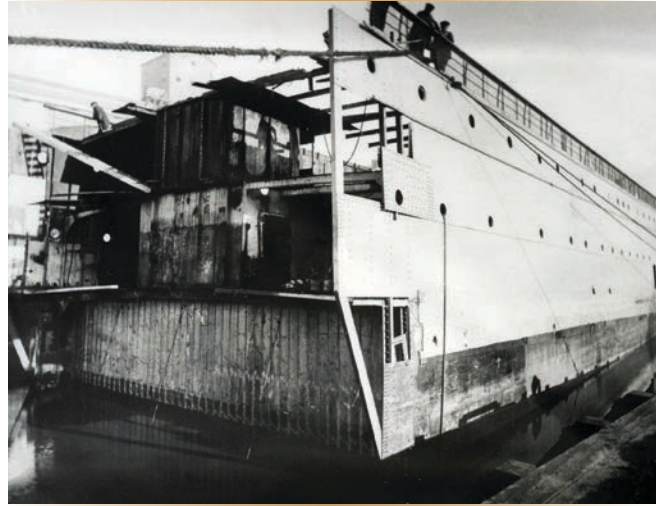
captain who murdered his crew and sank his ship, the captain who secretly survived the sinking of his ship and what he ended up doing, and the most visited submerged shipwreck in the entire world (yes, it's on the Canadian side of the Great Lakes!).”

Kohl and Forsberg are well-known Great Lakes maritime historians, scuba divers, underwater archaeologists, photographers, videographers and public speakers. They have written 17 books as well as several hundred magazine articles, have produced 16 historical documentaries and have been interviewed numerous times on radio and television.

The book is an enjoyable and easy read, and readers might wish to investigate others from the same authors. Their list includes such provocative titles as *Treacherous Waters: Kingston's Shipwrecks*; *TITANIC: The Great Lakes Connection*; and *Shipwrecks at Death's Door*.



Tom Douglas is the author of a number of books, magazine articles and newspaper accounts of Canada's military heritage. He was awarded the Minister of Veterans Affairs Commendation in 2012.



Photos courtesy the author

The stern section of the *North West* (above) was later rebuilt as part of the steamer *Maplecourt* (below).



AWARDS

Chief of the Defence Staff Commendation

R Adm Gilles Couturier, Deputy Commander RCN, was refereeing the annual Chris Saunders Memorial Hockey Classic for the naval technical community on Feb. 15, when he paused to present the CDS Commendation to **Cdr Trevor Scurlock** (right) for his actions in rescuing the victims of a head-on vehicle crash on Ottawa's Aviation Parkway on Dec. 12, 2016. Before emergency services arrived, Cdr Scurlock extracted the occupant of one car, before freeing the occupant of the second vehicle moments before it went up in flames. Cdr Scurlock is the DNPS 3 Section Head for Marine Propulsion Systems in DGMEPM Ottawa.
Bravo Zulu, Trevor!

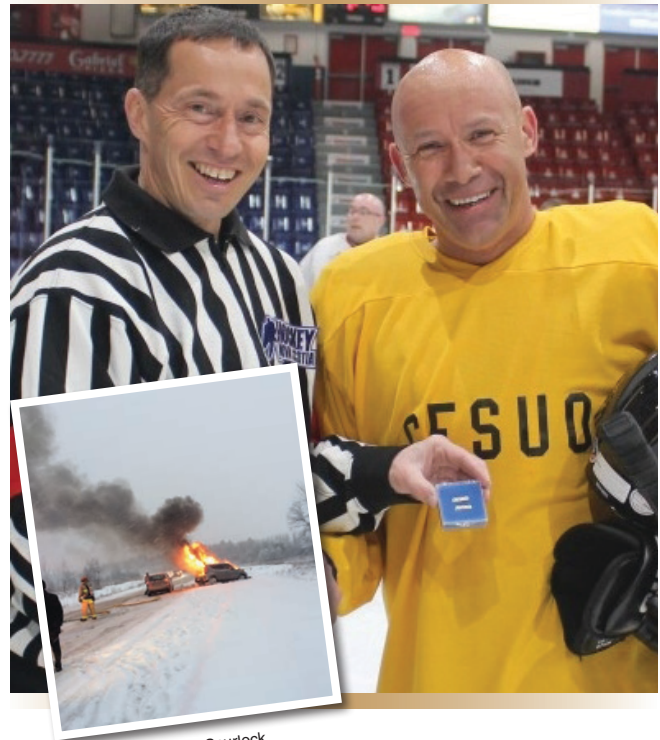


Photo by Cdr Trevor Scurlock

Photo by Brian McCullough



Jim Carruthers (left) with VAdm Ron Lloyd

Presented to

Captain (Navy) (Ret.) Jim Carruthers

In recognition of your exceptional leadership and dedication as President of the Naval Association of Canada
8 June 2013 to 21 October 2017

This Canada 150 Flag and Naval Ensign were flown by HMCS *Calgary*, and are presented on a stand made from the taffrail of the last RCN destroyer, HMCS *Athabaskan*

On behalf of a grateful RCN
"Fairest Winds and Following Seas"
24 November 2017

Vice-Admiral Ron Lloyd
Commander Royal Canadian Navy



AWARDS

Lockheed Martin Canada Award



Photo by Lt(N) Dusan Brestovansky

Lt(N) Patrick Cousineau
 Top Combat Systems Engineering Phase VI candidate
(With Patrick St-Denis)

MacDonald Dettwiler Award



Photo by Lt(N) Dusan Brestovansky

Lt(N) Haley van Poorten
 Top NTO candidate to achieve Head of Department
 qualification *(With Mike McEntee)*

Rheinmetall Award



Photo by PO1 Pete Fraser

LS Jeffrey Cholak
 Top W Eng Tech, exhibiting outstanding performance
 and conduct in trade *(With François Desmarais)*

HMCS Sackville Award



Photo by PO1 Pete Fraser

PO1 Aaron Murray
 Top W Eng Tech candidate who achieved the
 Maintenance Manager Course *(With Cdr Tanya Koester
 and Capt(N) Ed Hooper)*



News Briefs

Jeanette Southwood: On the importance of collaboration and diversity to the success of engineering and technical innovation

The naval technical community in Ottawa was very pleased to welcome honoured guest speaker **Jeanette Southwood**, P.Eng., vice-president of strategy and partnerships at Engineers Canada, at its annual mess dinner on February 15.

A native of Cape Town, South Africa, Ms. Southwood is a chemical and environmental engineer who has received numerous honours and awards over her career, including the Professional Engineers Ontario (PEO) Young Engineer Medal, and the PEO Engineering Excellence Medal. She was inducted as a Fellow of the Canadian Academy of Engineering in 2014, was named one of WXN Canada's Top 100 Most Powerful Women in 2015 and 2017, and has been bestowed an honorary doctorate.

In her well-received remarks, Ms. Southwood drew on her own experiences as an engineer, as a woman, and as a visible minority person to emphasize the importance of collaboration in building partnerships, and of the inclusion of diverse perspectives in creating solutions for society's most pressing problems.

“At our core, engineers are problem-solvers who seek to develop solutions that are cost-effective and sustainable,” she said. “Present us with a challenge, and we’ll give you a solution. Give us something broken, and we’ll not only fix it, but we’ll make it better than it was before. It’s what we do. We hope that we live in a society that recognizes the simple, profound fact that the most intelligent, robust approaches to problems are the ones that incorporate, rather than eliminate multiple perspectives.”

Ms. Southwood said that the abhorrent system of apartheid, the institutionalized racial segregation and discrimination in South Africa her family left behind for a life in Canada when she was young, “systematically squandered so much talent, so much possibility, so much productivity.” In the end, she said, “that way of thinking failed itself.”



Photo by Brian McCullough

Cmdre Simon Page with Jeanette Southwood

Diversity is not only a question of justice or doing what’s right, she added, but is also the recognition that a system is stronger when it accounts for multiple points of view, even if that requires people to challenge their assumptions and work harder in building solutions. She said we are living in a time when the ability to innovate will increasingly come to rely on our ability to draw on diverse people and perspectives. One example Ms. Southwood described was Engineers Canada’s 30 by 30, the goal of raising the percentage of newly licensed engineers who are women to 30 percent by the year 2030.

“When we engineers are solving problems, we want our solutions to be the right ones, accounting for the full range of issues that need to be addressed,” Ms. Southwood said. “We never want to generate new problems in the process of solving others. That’s where diversity is critical. To be truly innovative, we must recognize and harness the strength of the many as we move towards our goals.”

— By Brian McCullough



News Briefs

Industrial Perspective – The Textile Art of Susan Purney Mark

“An urban shoreline is often seen as the gritty edge of our city, with factories, trainyards, cranes, and a run-down, graffiti-filled appearance. Regardless, the port represents tangible industry in an increasingly virtual world, a key part of our economy and the entry point of much of what we surround ourselves with.”

These are the words that Victoria, BC textile artist **Susan Purney Mark** uses to introduce her contributions to *Industrial Perspective*, an upcoming exhibition at the North Vancouver Community Arts Council’s Cityscape Gallery. The exhibition opens May 31, and runs June 1-30, 2018.

“The port is a place of communities, shifting use, mystery and beauty,” Mark writes. “The focus of my current work – the decay and ruins of abandoned industrial warehouses and buildings along the intertidal zones of urban harbours presents a dichotomy between the hard and soft; the rigidity of steel and the fluidity of cloth.”



An award-winning quilter and a qualified quilt judge, Mark uses a variety of tools, dyes and paints to achieve her rich patinas of rust, crumbling rafters and corroding steel, sometimes bundling as many as 40 different threads to create the texture and density she is looking for in her layers and patterns of stitching. Her work is known for its use of traditional methods with contemporary design and materials.

Mark studied Design, Patchwork and Embroidery with the prestigious City & Guilds Institute of London, England, and is an active member of the fibre arts community in British Columbia. The artist, teacher and designer also belongs to a number of national and international fibre and surface design associations. You can see more of Susan Purney Mark’s textile art at <https://www.susanpm.com/>



The ghostly skeleton of a jetty crane emerges like a spectre in textile artist Susan Purney Mark’s award-winning 2016 quilt creation, *Burrard* – a 29x41-inch hand-dyed and hand-printed fabric inspired by the former North Vancouver Shipyards site, now a popular tourist destination. (Images courtesy the artist.)



News Briefs

2018 Chris Saunders Memorial Hockey Classic



Photos by Brian McCullough

VAdm (ret.) **Larry Murray** (Grand President of the Royal Canadian Legion) dropped the puck for the annual Chris Saunders Memorial Hockey Classic at the Robert Guertin Arena in Gatineau, QC in February. With him (below) were referee **RAdm Gilles Couturier** (Deputy Commander RCN and Hockey Patron for the CAF), Marine Systems team captain **Cdr Jay Harwood** (in yellow jersey), and Combat Systems team captain **Cdr Allyn Holborn** (in green).

The winners were the RCN's very own Dream Team in Green – the **Combat Systems Engineers**, coached by **Cdr Mike Wood**. The players of the game were **Lt(N) Wendy Chan** (top right) from Team MSE, and **Lt(N) Peter Hale** from Team CSE. Thankfully, there was no rivalry in the timekeepers box between true Montreal Canadiens fan **Karen Black** and Boston Bruins stalwart **Laurie Pardoe**. The final score was apparently classified Top Secret by the MSEs, and not available for release.





NEWS

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Cape Bretoner at Large – A Memoir

Retired RCN Maritime Engineering officer **Captain Roger Chiasson** has just self-published his memoirs, now available through Friesen Press. Over a third of the book, which took him 10 years to write, chronicles his 38 years of naval service during the era of the Cold War. “*Cape Bretoner at Large – From New Waterford to Tokyo and Beyond*,” describes his journey from his time as a military college cadet through to his appointment as Canadian Naval Attaché in Tokyo and his retirement in 1998. Many aspects of his

story will be familiar to others who have done their own naval service, and to his credit Chiasson has not shied away from sharing one of his less glorious experiences as a ship’s Engineering Officer in the interest of passing the lessons along.

The following excerpt details a busy and productive period in Chiasson’s career that included publication of a much different kind of volume of knowledge.



Naval Engineering Headquarters

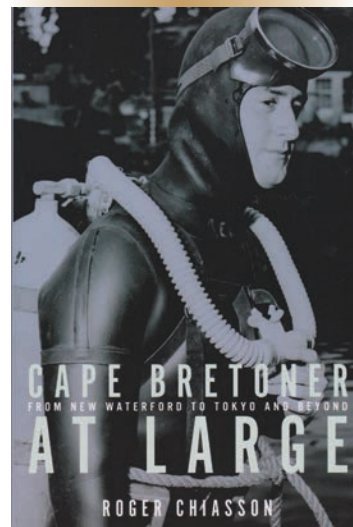
An excerpt from the author’s memoir

By Roger Chiasson

And so, after having successfully avoided headquarters for 21 years, I found myself in Ottawa as Section Head for DMEM-5 (Directorate of Maritime Engineering and Maintenance, Section 5). It was far from a sinecure. I worked 60-hr weeks for four years in what was one of the most demanding jobs in the entire headquarters. But, again, I was the right candidate for the job, since I had accumulated a lot of experience in shipyards and I was known for my penchant to improve the way the refit business was conducted.

My primary responsibility was to manage ship refits for the entire Navy, involving both commercial shipyards and Naval dockyards. To support me in this part of my duties I had two Lieutenant Commanders (LCdrs) working for me: one responsible for small vessel refits, with a small staff, and another responsible for major warships, with a larger staff, most of whom were responsible for managing individual refits. In addition, another LCdr was responsible for submarine refits as well as acting as the “class desk” for all issues pertaining to technical support for submarines.

In effect I was the ship-level “class officer” for all Naval ships. The Naval technical headquarters also had a number of Life



Cycle Materiel Managers (LCMMs) who were responsible for procurement and in-service support of individual equipment and systems, such as main propulsion,

continued on next page





engines, boilers, etc. If any of the technical support issues fell outside the boundaries of these LCMMs, they usually landed on my desk.

My duties also included chairmanship of the Ship Modification Review Board. The board met quarterly to review proposals for, as the name of the board implies, modifications or improvements to Naval ships. These proposals were an important part of maintaining a fleet of ships, which our Navy would be expected to operate for several decades. These proposals would include all manner of changes to ship configurations to introduce new equipment, although legally the changes could not introduce new capability. As a result, many of the changes were to incorporate replacement equipment that had become unsupportable because of the lack of spare parts or commercial technical support. The Modification Review Board had to consider such factors as affordability and the impact on ship stability in their decisions. Since two of the board members were Naval Captains that out-ranked me I was in a delicate position since the final decisions, after due consultation among board members, were mine.

As could be construed from my previous comments about the conduct of ship refits, I worked in a rather tumultuous world, where a lot of the issues emerged with little warning and in which many of the decisions were seat-of-the-pants. There was never any predictability or stability, and a lot of effort seemed to be going into “fire-fighting” rather than planning and managing. One of the priorities I established early on was to develop a refit management manual, since very few of the activities and processes were written down. While the Standing Orders that had been developed at the overseeing detachment in Montreal could be considered a “tactical” guide to running refits in a shipyard, what I had in mind was a more “strategic” document to guide the process at the national level.

The first step was to hire a former Naval engineering officer to create a flow chart, as best he could, documenting the processes that we were using. The next step was to examine the chart to see if



Photo: mbpowell, Ottawa – <https://commons.wikimedia.org/w/index.php?curid=3135422>

The MGen George R. Pearkes National Defence Headquarters Building in Ottawa.

we could be doing things in a more effective and efficient manner. The conclusion was that the system was in fact quite sound. The fact remained that, since there were no formal guidelines, individuals often had to learn through their mistakes. Normally the next step would have been to contract someone to author a new volume of the Naval Maintenance Manual. However because of my career experience I concluded that I was probably the right person who had experience in all the steps and the nuances of the refit management system, so I decided to write the manual myself. The problem was finding the time, in what was already more than a full-time job. I decided to take three weeks off around Christmas one year, and Volume 7 of the Naval Maintenance Manual was born.



CNTHA online – insight through hindsight

By Don Wilson, CNTHA Webmaster

Since going live in 2004 the CNTHA website (www.cntha.ca) has gone through many updates to improve how we inform and serve our visitors online. We are always keen to hear from anyone who might have ideas for added features, or content that will help us in our primary mission of preserving Canada's naval technical heritage for future generations. CNTHA maintains contact with DND's History and Heritage organization, and also with the RCN's Maritime Equipment Program Management organization in order that we can optimize our efforts.

Much of what you see has been developed by retired members of the naval technical support community who were once actively involved in Canada's various naval ship and equipment development,

shipbuilding and operations programs. For young professionals in active career mode today, there is much to be learned from their insights.

We encourage all of you, young and old alike, to take an active role in contributing to the discussion through the CNTHA's oral and written history program, and through your letters to the publication you are reading now. We look forward to hearing from you at info@cntha.ca.

