New kid on the dock

Brian J. Carter, President, Seaspan Shipyards

Don't let the lack of grey hair fool you. Brian Carter might be new to the industry in B.C. but he's no stranger to shipbuilding and he's especially no stranger to large-scale maritime business development projects with successful results. When *BCSN* sat down with Brian to find out how the first six months of his new position have been going, it was immediately obvious that his expertise is going to be key for a company that just received a part of one of the largest procurement contracts ever initiated by the Canadian Government. As leader of the team responsible for building the non-combat vessels for the Canadian Coast Guard, Brian has his work cut out for him. Based on our interview, it's evident that he's up for the task.

Photo credit: Dominic Schaefer

BCSN: *First, congratulations on your appointment. You've been in this position for six months now but I understand you were no stranger to Seaspan prior to this. Could you provide us with a high level background of your career to this point and your involvement with the NSPS bid?*

BC: I've known Jonathan Whitworth (Seaspan CEO) for quite some time and during one of our conversations he asked me to assist Seaspan with the NSPS bid, which started in February 2011. Part of my role was to provide guidance in structuring the response. It was a great team and I was amazed at how much work was done by a very small group of people, everyone pitching in where they could. By the time we finished the proposal, I was quite excited about Seaspan and the NSPS program and was very interested in continuing on with the team should we be one of the successful bidders. After award of the non-combat package to Seaspan, Jonathan offered me this position.

I've been in the shipbuilding industry for my entire career. My education includes a mechanical engineering degree from Seattle University, a naval architecture degree from the University of Washington and an MBA from the University of California-San Diego. About half of my 20 years in the industry were with General Dynamics NASSCO in San Diego, the only major ship construction yard on the U.S. West Coast.

By the time we finished the proposal, I was quite excited about Seaspan and the NSPS program and was very interested in continuing on with the team...

I left NASSCO in April 2010 to pursue work away from shipbuilding for a change. The investment side of the maritime industry interested me — mainly mergers and acquisitions. As I began to explore opportunities, a number of companies needed consulting help on short-term projects. It was in that way that Brizo Maritime was formed. Our focus was assisting maritime companies with strategic business development initiatives.

BCSN: *Could you describe some of your responsibilities and priorities as President of Seaspan Shipyards?*

BC: This is a new position within Seaspan, or rather a revived position given the new contract. Prior to it being created, Jonathan was overseeing the entirety of Seaspan Marine Corporation — the marine side, the shipyards, the ferries, it's a huge portfolio.

My responsibility is for the three shipyards (Vancouver Shipyards, Vancouver Drydock and Victoria Shipyards) as well as the responsibility to ensure our strategic plan is followed, a big part of which is getting ready for building the NSPS vessels. While we start on the facility upgrades and the first vessel design, we need to make sure all three shipyards continue

to perform on their existing work — the Frigate Life Extension Program, the Vessel In-Service Support Contract and the *HMCS Protecteur* at Victoria Shipyards; commercial ship repair at Vancouver Drydock; and repair work and building nine new chip barges at Vancouver Shipyards. All of this will help develop skills as we get ready for the NSPS vessels.

In terms of priorities, the biggest by far is to build the team for the NSPS. By 2016, we expect to have about 1,000 people in our production workforce at Vancouver Shipyards.

In terms of priorities, the biggest by far is to build the team for the NSPS. By 2016, we expect to have about 1,000 people in our production workforce at Vancouver Shipyards. Once we deliver the Polar Icebreaker and the NSPS work volume starts to decrease, we'd like to maintain that 1,000 workforce level by selling available capacity to third parties. The last time we had that many workers was in 2007/08 for the *M.V. Island Sky* but once that was over, we scaled back. This time, we're looking to sustain that number, achieving one of the main goals behind the NSPS for a sustainable shipbuilding industry on the West Coast.

BCSN: *Do you have a sense of where the business will come from following the NSPS vessels?*

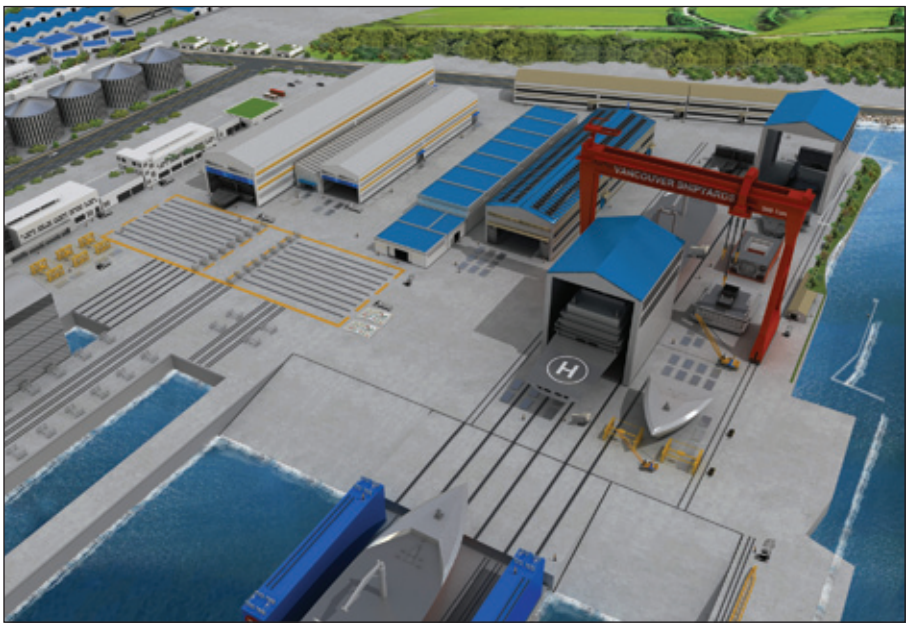
BC: There are a couple of natural places for us to look. For example, selling the existing product type, like icebreakers or research vessels, to foreign governments. That would be an absolute win for us and a big validation of what we and Canada have achieved under the NSPS. BC Ferries would also be a logical place to look for new building opportunities. The current focus is on a very deliberate process of building the team — creating the processes to execute the work, planning the work and then executing it — in that sequence. We have to do this in a very organized manner to avoid losing control that would be hard to recover. We see an eagerness from the industry, the public and even our customer to get going on vessel construction but we need to lay a proper foundation to ensure success.

BCSN: *Could you provide an update on progress with that foundation — where are you at with things like team-building and infrastructure upgrades?*

BC: As mentioned, we've placed a huge priority on building the right team. Historically, when a new build opportunity was awarded in Canada, a company would create a program team by assembling staff from different parts of the organization, execute the program and then have everyone go back to their regular jobs. The NSPS provides Seaspan with the stability necessary to build the organization properly. In our case, we'll go from being a project-based shipyard to a manufacturing company and we're building a team to support that. This year, we're hiring 35 new salaried positions, mostly experienced shipbuilders for senior management. Of our five highest priority positions, four are now filled. We've been very selective but fortunate in finding the right people.

Another key step in the project is the modernization of Vancouver Shipyards. We have hired STX Korea to help us finalize the facility design. They've recommended changes to our original design that will give us more flexibility — allow us to execute NSPS efficiently but also provide for greater opportunities in the future.

Some of the highlights of the facility upgrade include a new building to



Updated facility design for Vancouver Shipyards incorporating recommendations from STX Korea.

support block assembly and pre-outfitting capabilities, a very important component for shipbuilding efficiency. A key new addition to the shipyard will be the new blast and paint building which will provide a lot of flexibility for our repair work and new construction. We're also planning for a 300-tonne gantry crane to support grand blocking and the vessel erection process.

Currently, we're completing the details on the new layout and support services and we are also working with the municipal government to get the proper permits in place. We expect to break ground on the first building at Vancouver Shipyards late this year and be tendering construction-type opportunities by August. The project should take two years to complete once construction begins.

Our strategy is to build as much of each vessel as possible in our North Vancouver facility and then, once it's launched, take it to Victoria Shipyards for final outfitting, tests and trials before delivery. Victoria has solid experience in dealing with that final phase and they have the support of the Esquimalt Graving Dock facilities as well. In addition, we're planning a couple of new buildings in Victoria — the cost will amount to about $15 to $30 million out of the approximate $200 million budget for shipyard upgrades.

The JSS will require a big ramp up for us. We'll see a spike at that point in employment and production.

BCSN: *Do you have an update on the status of the vessels as well?*

BC: We have four vessel types identified thus far — the Offshore Fisheries Science Vessels (OFSV), the Offshore Oceanographic Science Vessel (OOSV), the Joint Support Ships (JSS) and the Polar Icebreaker. We'll be building the OFSV first. Our goal is to start construction in the third quarter of next year. We're currently working with the Canadian Coast Guard on the design and expect to be under a contract to complete the production design this summer. As the design matures, we'll start to evolve the equipment requirements — by the first quarter of 2013, we should be ready to start purchasing a good portion of the material.

We also have the concept design for the OOSV. Because there is only one OOSV required, it would be ideal to make it as close to the design of the OFSV as we can and, while we have the concept design in hand, we're pausing so we can develop the details on the fisheries vessel and integrate those details into the construction of the OOSV.

The JSS will require a big ramp up for us. We'll see a spike at that point in employment and production. To ramp up like that is risky for a shipyard and we are working with the government on the JSS design development. Our goal is to provide input into the design for those vessels so that they can be built efficiently in our shipyard and mitigate our execution risk. A similar effort will be underway soon for the Polar Icebreaker for exactly the same reasons. The government has been very supportive of that as well.

BCSN: *There was an announcement in March for additional funding for non-combat vessels. Do you have any additional details on that yet?*

BC: We're currently working with the government to understand what those vessels will be and the associated timing. Essentially, the government announced an additional $5.2 billion over 11 years for renewal and refits to the Canadian Coast Guard fleet, including helicopters. A large portion of this will be for new builds that will fall under our umbrella agreement to supply non-combat vessels over 1,000 tonnes, but we're in early days yet for this.

BCSN: *One of the elements in your contract with the federal government is a "value proposition". Could you describe some of the initiatives being planned for this?*

BC: Yes, it's an important part of our strategy. We're not trying to just build NSPS vessels — we're creating a shipbuilding company in perpetuity and to do that, we need to foster an ecosystem that will support it. We will be active in maximizing value for our customers — partnering with the right people and organizations, including First Nations, universities, research and development institutes and trade schools to make sure we have a sustainable industry for the future. We're exploring investments in programs that, in the future,

would allow us to draw from a talent pool and also investments that could allow us to buy shipbuilding material here in Canada. There are also potential investments for funding new technology development. We're still in the planning stages for how to manage the value proposition. It will likely be the middle of next year before we start executing the plan.

BCSN: *Have you had much experience with the U.S. National Shipbuilding Research Program (NSRP)? Would this be the kind of initiative you would consider as part of the value proposition?*

BC: The companies I worked with in the U.S. participated in the NSRP. The program focuses on projects that could potentially reduce costs for shipbuilding for the U.S. government — mostly naval-related technology. It's partially funded by the government but managed by a private company and it is effective as a vehicle for the industry to share information. For example, we're meeting with a company who developed a shipyard simulation tool under the NSRP program. It's now a proven system and the company is out marketing it commercially.

The main difference between the NSRP and our value proposition is in the funding and we will not necessarily just focus on shipbuilding. The total funding for the value proposition is about $40 million ($15M from Seaspan, $5M from the Province and $20M from BC Ferries).

We're looking to foster the development of the overall maritime industry in Canada. It's very clever of the government to require this. For us, there is a regional strategy and a national strategy and I think partnerships with companies like Irving Shipyards and others to execute an NSRP-like program nationally is something that could potentially be explored.

BCSN: *Could you compare Canada's shipbuilding industry to that in other countries?*

BC: Canada's NSPS program is the most interesting opportunity in the global shipbuilding industry today.

About Seaspan Shipyards

With roots dating back over 114 years, Seaspan Marine Corporation's three shipyards — Vancouver Drydock Co. Ltd., Vancouver Shipyards Co. Ltd. and Victoria Shipyards Co. Ltd. — have successfully completed countless new construction, conversion, refit, repair, life-cycle maintenance and refurbishment projects on government and commercial vessels, including cruise ship conversions, work on deepsea vessels and container ships. Seaspan Shipyards specialize in new construction of and repair work on ferries, Coast Guard vessels, naval ships, barges, tugs, yachts, fishing vessels, Arctic Class and research vessels of all types and sizes.

Vancouver Drydock Co. Ltd. has a Panamax drydock with 36,000-tonne lift capacity; a self-contained drydock with 30,000-tonne lift capacity; a 210-metre deep-water pier; and a machine shop that covers almost 2,000 square metres.

Vancouver Shipyards Co. Ltd. was originally incorporated in 1902 when it was located in downtown Vancouver before moving in 1968 to its present, 35-acres facility in North Vancouver. The bulk of an approximately $200 million investment will be spent on infrastructure and facility upgrades at Vancouver Shipyards with seven new buildings planned to accommodate efficient construction of the vessels under the NSPS contract.

Victoria Shipyards Co. Ltd. can accommodate vessels up to 100,000 DWT and can perform a wide range of repairs up to and including complete vessel conversions. Utilizing Esquimalt Graving Dock (owned and operated by Public Works & Government Services Canada), Victoria Shipyards is well known worldwide for its quality cruise ship repair service, and its work on Royal Canadian Navy vessels, including the Navy Submarine Program and the Frigate Life Extension Program to modernize 12 Canadian Patrol Frigates.

For more information about Seaspan Shipyards, visit: www.seaspan.com.

I think that our open Vice President, Technical position is one of the most attractive jobs in the shipyard world right now just by the nature of what's ahead of us.

From a volume standpoint, Canada hasn't had enough steady volume to allow us to be internationally competitive. If we compared ourselves to some of the higher-wage shipbuilding countries and, believe it or not, our costs are about on par with Korea, but they have the volume that allows them to be more efficient and we can't compete with that. Where we are going to be able to compete is in specialty vessel construction — for example, research vessels and icebreakers for foreign governments or commercial use.

Comparing us to lower wage countries, for example China (although China is unique and their wages will increase in the coming years), you need to focus on those variables that you can control to become competitive. If labour is not your cost driver then it's material so you do everything you can to minimize the material costs. When we design vessels here, we're looking to optimize our "touch" labour because that's our main cost driver.

One of the benefits of using STX Korea for our facility design is that they have the same cost drivers as we do here in Canada so their recommendations have been very useful to allow for greater efficiency and flexibility.

Once we have some of the NSPS work under our belt, we'll be more competitive internationally on specialty vessels and this will hopefully be attractive to other governments and operators like BC Ferries.

Shipbuilding efficiency is really a function of highly repeatable processes — it's more a series of small gains that will add to efficiency improvements.

BCSN: *What sort of new technology will be part of the upgrade to the facilities here?*

BC: In terms of technology, shipbuilding hasn't really changed that much in 20 years. There were some companies 10 or 15 years ago that heavily got into robotics but I don't think they achieved what they wanted and might have created more problems than they solved. Shipbuilding efficiency is really a function of highly repeatable processes — it's more a series of small gains that will add to efficiency improvements. With more work, you gain more experience. The workforce is the best place to get ideas for improvements — listening to the people who are living it every day, learning how we can do it better and getting that information into our processes and designs.

BCSN: *What about labour and the workforce? Are there any evident differences between Canada and other countries?*

BC: One thing I've noticed about Canada — and I can see it when I walk around the shipyard here — is the training has been much better than

About Brian J. Carter

After obtaining a Bachelor of Science in Mechanical Engineering and a degree in Naval Architecture and Marine Engineering, Brian Carter began his shipbuilding career in Washington state, first for a custom yacht builder and then for Washington State Ferries Vessel Design Group. He was later hired by Halter Marine — a leading middle-market shipbuilding company with 10 shipyards on the Gulf Coast — first as a mechanical engineer and later promoted to project engineer.

The majority of his career has been spent with General Dynamics NASSCO in San Diego, California where he was promoted through the ranks from project engineer to global manager, commercial business development and strategic planning. In this role, he led company-wide strategic commercial shipbuilding and industrial sales planning efforts including detailed technical and financial strategies for capturing commercial shipbuilding contracts. His efforts resulted in securing one of the largest commercial shipbuilding contracts in recent U.S. history (the $1 billion, nine-ship, PC-1 product tanker contract) as well as the development of 14 new ship designs and 23 unique shipbuilding opportunities totalling more than $4 billion in potential revenue.

Carter established Brizo Maritime in 2010, a consulting firm that provided expertise in merger and acquisition opportunities, evaluation and qualification of investment opportunities, and advice for stakeholders on product development and funding strategies for new product initiatives.

In addition to obtaining his Master of Business Administration in Finance from the University of California-San Diego, Brian was selected for the honour of Member status within the American Bureau of Shipping (ABS). He has fulfilled speaking engagements around the world for such audiences as the National Academy of Sciences, the Society of Naval Architects and Marine Engineers (SNAME), the U.S. Department of Transportation, and JECKU (Japan, Europe, China, South Korea and the United States) Shipbuilding Top Executive Meetings.

While hobbies include sailing and cycling — both of which provided a significant attraction to relocating to Vancouver — Carter admits that his new position allows for little recreation time.

anything I've seen in other yards. I've had the opportunity to tour BCIT as well as the Pipefitters' training facility and they've really done a great job. Those types of schools are rare in the U.S. so a shipyard often has to train its own workforce. I'd have to say from an efficiency standpoint we're pretty equivalent — they have more experience but our guys are better trained. An apprenticeship here is like getting a four-year university degree; in the U.S., it's often just a couple of months' worth of training. And it's not just the skills of the trade but also aspects like safety, rigging and generally a more organized approach. That was a nice surprise for me as I came into this position.

With the stable, long-term work that we'll be able to offer, it's attractive and a great opportunity...

BCSN: *Do you anticipate any issues related to an aging workforce — losing technical skills or knowledge as the surge of baby boomer retirements begins? Also, do you anticipate any difficulties in filling all of the positions you'll need?*

BC: When we start on the production phase of NSPS, we expect that the average age of our workforce will naturally go down. In the early stages we'll see positions being filled by fairly senior people due to the nature of our collective bargaining agreements, but over time this will change. We are partnering with our unions, First Nations groups and other organizations that are interested in ensuring we have a workforce to draw from in the future so we're not too worried about difficulties in finding labour. With the stable, long-term work that we'll be able to offer, it's attractive and a great opportunity for someone who wants a wage that allows for a family and a great Vancouver lifestyle.

There are some obvious labour markets that we'll be able to tap into — for example, people working in the oilsands or from other provinces who are looking for a career in Vancouver.

The good news also is that the contract announcement and the work we are doing creates a lot of interest in skilled trades, so as people progress through their apprenticeships and schooling, shipbuilding will be an appealing option. I think BCIT's application volume went up dramatically after the NSPS announcement was made in October.

BCSN: *For companies looking to get involved in the NSPS and offer their services and supplies, what sort of opportunities do you anticipate?*

BC: First, I strongly recommend they register with our Suppliers Registration Site at www.seaspan.com. Since going live in January we've had over 500 new suppliers register — and that's in addition to our existing supply base.

As far as the types of supplies and services we'll need, think of everything that goes into a ship — the material to support the structure, the pipes and pipefittings, etc., and then there is the specialty equipment to support the operation of the vessel.

Beyond the shipbuilding, there are opportunities to support the facilities upgrades as well. We're currently in the market for shipyard equipment like panel lines, etc. The upgrade is a two-year project and we'll be actively procuring materials for quite a while. For the vessels themselves, you won't see much this year but as the vessel construction begins to peak in 2016, we'll be purchasing over $350 million of material and equipment per year. And because we'll be trying to sustain that level of activity beyond 2017 there will be some good long-term opportunities for outside suppliers.

People should also remember that the federal government has set aside $2 billion for over 100 small vessels (under 1,000 tonnes) plus another $500 million per year for repairs and refits.

We're making the most of this opportunity to create a sustainable shipbuilding industry in B.C.

BCSN: *I'd like to spend a minute looking at government involvement — not just as a customer for the vessels but other agencies and how they're contributing?*

BC: There are a lot of resources available within the government and with the interest that surrounds the NSPS program we're seeing a number of agencies wanting to make sure it's successful. A good example was the workshop recently organized by Western Economic Diversification Canada. That forum gave a good overview of some of the initiatives being taken that will benefit the project — programs like tax credits for training incentives through the B.C. Ministry of Jobs, Tourism & Innovation and the Ministry of Finance; the Canadian Innovation Commercialization Program through Public Works & Government Services Canada; or the BC Shipbuilding and Repair Workforce Table created through the BC Jobs Plan.

While I can't speak for the government, our goal for a sustainable shipbuilding industry on the West Coast is shared by them. We're really not focused on just building vessels for the government and then folding up our tent and going away. We're making the most of this opportunity to create a sustainable shipbuilding industry in B.C. — that's the priority and the NSPS provides a fantastic springboard. BCSN