The RCN’s Capital Equipment Priorities and Projects

Best Defence Conference – 2017

Captain Jason Armstrong, RCN
Director Naval Requirements

2 November 2017

Video
Directorate of Naval Requirements (DNR)

**Capability Areas**

- **Maritime Domain Awareness & ISTAR**
- **Platform Requirements, & MOE**
- **Above Water Warfare Requirements**
- **Under Water Warfare & Training & Simulation**
- **Communications and Information Systems**

**Class**

- **Halifax Class Modernization**
- **Submarine Requirements**

**DNR 2**
Cdr Simon Nadeau
819-939-3949

**DNR 3**
Cdr Niall Hanratty
819-939-3946

**DNR 4**
Cdr Gary Friedrich
819-939-3986

**DNR 5**
Cdr Martin Byrne
819-939-3969

**DNR 6**
Cdr Jeff Loder
819-939-3973

**DNR 7**
Cdr Tony Foster
819-939-3976

**DNR 8**
Cdr Gary Friedrich
819-939-3973

**DNR 9**
Cdr Martin Byrne
819-939-3969

**DNR 10**
Cdr Jeff Loder
819-939-3973

**CPC**
Cdr Brian Foxton
613-945-0637

**Capt Jason Armstrong**
819-939-3954

**Cdr Niall Hanratty**
819-939-3946

**Cdr Gary Friedrich**
819-939-3986

**Cdr Simon Nadeau**
819-939-3949

**Cdr Martin Byrne**
819-939-3969

**Cdr Jeff Loder**
819-939-3973

**Cdr Tony Foster**
819-939-3976

**Cdr Jason Armstrong**
819-939-3954

**Cdr Niall Hanratty**
819-939-3946

**Cdr Gary Friedrich**
819-939-3986

**Cdr Simon Nadeau**
819-939-3949

**Cdr Martin Byrne**
819-939-3969

**Cdr Jeff Loder**
819-939-3973

**Cdr Tony Foster**
819-939-3976
SSE Investments in the RCN

- Recapitalize the surface fleet through investments in 15 Canadian Surface Combatants and 2 Joint Support Ships.
- Acquire 5 to 6 Arctic Offshore Patrol Ships.
- Operate and modernize the 4 Victoria-class submarines.
- Acquire new or enhanced naval intelligence, surveillance, and reconnaissance systems, upgraded armament, and additional systems for current and future platforms allowing for more effective offensive and defensive naval capabilities.
- Upgrade lightweight torpedoes carried by surface ships, maritime helicopters and maritime patrol aircraft.

**VCM**
- **Current**: SCD being drafted
- **Next Milestone**: DCB1 in fall 2017

**NLT**
- **Current**: entered Def 22 Aug 17
- **Next milestone**: Draft RFP for industry engagement

**NEWSS**
- **Current**: SOR drafted and will enter signoff shortly
- **Next Milestone**: DCB2 in Oct 2018

**SB**
- **Current**: Progressing SOR and BCA for DCB2 in Oct 17.
- **Next milestone**: DCB 2 Oct 17 followed by Def submission
- **Comments**: Project team is updating documents and informing stakeholders of name change

**ISTAR**
- **Current**: Progressing project docs on schedule (SOR, BCA)
- **Next milestone**: DCB2 Jan 2018 followed by IRPDA

**MRB**
- **Current**: Crane (NP Davit Replacement) Request for Proposals released, closing 22 Aug. Letter of Interest for MRB to be released in Nov 17.
- **Next Milestone**: Contract award for the Crane in fall 2017.
  - Contract award for the MRB in Dec 2018

**LWTU**
- **Current**: SCD being drafted.
- **Next Milestone**: DCB1 in Nov 2017 followed by IRPDA
- **Comments**: Two phased approach to upgrading existing MK46 inventory to MK54 Mod 0.
  - Phase Two: Capital Project for procurement of Mk54 conversion kits, support and training, platform and maintenance facility upgrades.
DNR Priorities
Priorities (by project names)

- **DNR 2**
  - RCN ISTAR Unmanned Aircraft System (UAS)
  - CAF Provision of Services for UAS (CAF UPS)
  - Maritime Mini Unmanned Aircraft System (MMUAS)

- **DNR 3**
  - Multi-Role Boat (MRB)

- **DNR 4**
  - Naval Electronic Warfare System Sub-Surface (NEWS SS)

- **DNR 5**
  - Underwater Warfare Suite Upgrade (UWSU)
  - System of Training & Operational Readiness Modernization (STORM)

- **DNR 6**
  - Internet Support to Sailors (IS2S)

- **DNR 9**
  - *Victoria*-class Modernization (VCM)
**DELIBERABLE:**

The RCN requires an alternate airborne platform that can be operated from the Halifax-class frigate in order to provide near real-time ISTAR information. This ability will provide critical OTH SA and generate a tactical advantage for commanders while minimizing the risk to the frigate or maritime helicopter in support of simple to multi-threat operations.

- Each ship-set includes:
  - Unmanned Aircraft – Class II
  - Payloads
  - Ground Control Station/Multi-Domain Control Station
  - Communications (data link system)
  - Support Element (maintenance/storage)

**HIGH LEVEL MANDATORY REQUIREMENTS**

- Remain airborne for a minimum of 6 hours.
- Remotely operate at a minimum of 50 NM from a Halifax-class frigate with a maritime ISTAR sensor suite
- Operate from a Halifax-class frigate by day or night in challenging weather conditions
- Operate at sea without interfering with ship and Maritime Helicopter operations.
- Take off and land vertically from the flight deck within a 30 minute window
- Support operations by transferring multi-stream, near real-time sensor data back to the controlling unit, as well as other participating units
- Extend SA out to a minimum range of 80 NM from the ship while operating at less than 5000ft (ASL).
- Operate in a contested and congested electromagnetic environment.

**PROJECT STATUS:**

- In Options Analysis
  - Definition – 2018
  - Implementation – 2020
  - Contract Award – 2021
  - **Airworthiness Requirements 2021**
  - IOC –2022

**CONTACT INFORMATION:**

- RCN ISTAR Project Director
- LCdr Greg Zuliani
- DNR 2-6
- **Greg.Zuliani@forces.gc.ca**
- 819-939-3932

**FUNDING:**

- Total Project Value - $100M – $249M
Canadian Armed Forces Provision of Services for UAS (CAF UPS)

DELIVERABLE:

• Provide a lease for UAS service Commercial Off-The-shelf (COTS) to support Naval and Land Domestic / International deployment for an initial period of 3 years with option years to extend

• Each set includes:
  • Unmanned Aircraft – Class II
  • Plug ‘n Play Payloads
  • Ground Control Station
  • Communications (data link system)
  • Support Element (maintenance/storage)

REQUIREMENT CONSIDERATIONS:

• Contractor Owned $ Contractor Operated (COCO) and/or Contractor Owned & Military Operated (COMO)

• Vertical Take Off / Land

• AIS, IFF, EO/IR, Radar, SIGINT/COMINT payloads

• Provide ISR data Minimum range 50Nm at 5000ft

• Endurance of minimum of 6 Hours

• Operate Day and Night

• Airworthy and certified platform TRL 9

PROJECT STATUS:

• In Definition
  • Contract Award – Jan 2018
  • **Airworthiness Requirements 2018**
  • IOC – June 2019

FUNDING:

• Total Project Value - $100M – $249M

CONTACT INFORMATION:

• CAF Provision of Service Project Director
• Cdr Simon Nadeau
• DNR 2
• Simon.Nadeau3@forces.gc.ca
• 819-939-3949
DELIVERABLE:
The fundamental objective of the MMUAS project is to provide the RCN a beyond-visual-line-of-sight (BVLOS) Intelligence, Surveillance and Reconnaissance (ISR) capability (10-12Nm) onboard the -Kingston-class patrol ship through an acquisition of two MMUAS to support RCN deployments.

- Each ship–set includes:
  - Unmanned Aircraft – Class I
  - Payloads
  - Ground Control Station
  - Communications (data link system)
  - Support Element (maintenance/storage)

REQUIREMENT CONSIDERATIONS:
- Line of sight operations (10-12 Nm)
- Baseline EO/IR Sensor Payload
- Operate VFR by day or night
- Primary take off and landing method from the Kingston-class
- Waterproof components for water landings (secondary) and hand launch from the RHIB
- Mission-fit only

PROJECT STATUS:
- RFP – Nov 2017
- Contract Award – Jan 2018
- **Airworthiness Requirements 2017**
  - IOC – Mar 2018
  - FOC – Dec 2020

FUNDING:
- Total Project Value - < $5M

CONTACT INFORMATION:
- MMUAS Project Director
  - LCdr Adam Owen
  - DNR 2-2
  - Adam.Owen@forces.gc.ca
  - 819-939-3929

~
Multi-Role Boat (MRB)

DELIVERABLE:

- Replace the *Halifax*-class frigates’ Rigid-hull Inflatable Boat (RHIB) and davit system with a new RHIB and multi-function launch and recovery system (LARS). The LARS’ enhanced capability will support launch/recovery of fully manned MRB as well the existing Sea Rescue RHIB, cargo and miscellaneous stores handling and future demands including possible USV/UUV.

- Each frigate system will include:
  - Port and Starboard articulating crane system
  - Two 9.3m twin-engine, C2ISR equipped 12 man shock mitigating seating RHIB.

REQUIREMENT CONSIDERATIONS:

- RHIB operating independently in all conditions of visibility/weather both inside and outside of frigate’s visual and radar horizons. Perform all current and anticipated operations while decreasing risk to personnel and mission.
- LARS shall be able to launch and recover fully crewed and loaded RHIB (Minimum Safe Working Load of 15,500 pounds)
- Multi-functional; conduct all current boat/materiel tasks of the existing davit and torpedo handling crane, and support anticipated future requirements (UUV/USV)
- Launch and recovery operations for other Federal Government boats / RIBs

PROJECT STATUS:

- In Definition 2 Apr 2017
  - Implementation – 2018
  - Contract Award – 2018
  - IOC – Dec 2018
  - FOC – Dec 2020

FUNDING:

- Total Project Value - $50 million to $99 million

CONTACT INFORMATION:

- MRB Project Director
- Mr Mark De Smedt
- DNR 3-7
- Mark.DeSmedt@forces.gc.ca
- 819-939-3966
DELIVERABLE:

- To modernize and upgrade the Electronic Support (ES) and Electronic Intelligence (ELINT) capabilities of the Victoria-class submarines to provide early warning of threat and target emitters and electronic intelligence collection while operating submerged.

REQUIREMENT CONSIDERATIONS:

- To address Sea Search 2 obsolescence a national procurement (NP) project will replace Sea Search 2 in 2018-2020 with Sharkfin, a modern, upgradable, state-of-the-art ES/ELINT system. NP projects cannot deliver new capability, thus even with Sharkfin the Victoria-class will remain blind to many modern threat radars such as used FMCW low probability of intercept radars, and will not be into the CMS.

- Options under examination (both can deliver full capability):
  1. upgrade Sharkfin - estimate $15M - $20M CAD; and
  2. replace Sharkfin with complete new EW system estimated $60M - $100M CAD. Preliminary market analysis indicates this high risk option is not affordable.

PROJECT STATUS:

- In Options Analysis
  - Strategic Context Document – 2016
  - Business Case Analysis – 2017
  - Definition – 2019/2020
  - Implementation – 2020/2021
  - Contract Award – 2021/2022
  - IOC – 2023/2024

FUNDING:

- Total Project Value - $50M - $99M

CONTACT INFORMATION:

- NEWS-SS Project Director
- LCdr Ernest MacNeil
- DNR 4-4 EW
- ernest.macneil@forces.gc.ca
- 819-939-3952

FOR OFFICIAL USE ONLY – NOT FOR DISTRIBUTION/DISPLAY
Under Water Warfare (UWW) – DNR 5
**DELIVERABLE:**

- Modernize the underwater warfare suite that is currently installed in the *Halifax*-class frigates.
- Each ship–set includes at a minimum:
  - A new passive array
  - A new sonobuoy processing system
  - An upgrade to the hull mounted sonar
  - A new active intercept

- The project will also procure a minimum of four towed low frequency active sonars.

**REQUIREMENT CONSIDERATIONS:**

- Fully integrated shipboard underwater sensor suite
- Modular design using commercial components and accepted open standards
- Minimize physical changes to the ship’s structure

**PROJECT STATUS:**

- In Definition
  - RFP Closed (unfunded requisition) – Aug 2017
  - Implementation – 2018

**CONTACT INFORMATION:**

- UWSU Project Director
- LCdr Félix Rancourt
- DNR 5-3
- felix.rancourt@forces.gc.ca
- 819-939-3985

**FUNDING:**

- Total Project Value - $100M - $249M
DELIVERABLE:

- The aim of this project is to support the RCN Future Naval Training Strategy (FNTS, July 2015) which directs the RCN to modernize the Naval Training System (NTS) to ensure optimal use of methodologies, technologies and infrastructures to meet requirements in the most cost effective manner.
- STORM will address mainly technology aspects of the FNTS with a focus on Multi-purpose Reconfigurable Trainers (MRT) and synthetic environment interoperability between shore-based and shipboard embedded trainers for enhanced Distributed Mission Training (DMT) capability.

REQUIREMENT CONSIDERATIONS:

- The ability to manage the full spectrum of elements which comprise the NTS.
- The ability to design, develop, implement and evolve new training methods using modern training technologies.
- The ability to deliver RCN training effectively and efficiently for the full spectrum of RCN capabilities.
- The ability to deliver classified training without risk of compromise.
- The ability to integrate RCN training with combined and joint partners.
- The ability to deliver training at lowest cost to GOC without compromise to the combat effectiveness of the RCN.

PROJECT STATUS:

- In Identification
  - Strategic Context Document – Summer 2018
  - Business Case Analysis – 2018
  - Definition – 2019
  - Implementation – 2020
  - Request for Proposal Release – 2021
  - Contract Award – 2021
  - Final Delivery – 2023 to 2031

FUNDING:

- Total Project Value Estimate- $50M to $99M

CONTACT INFORMATION:

- STORM Project Director
  - LCdr Steven Liddell
  - DNR 5-5
  - Steven.Liddell@forces.gc.ca
  - 819-939-3994
**DELIVERABLE:**

- The Internet Support To Sailors (IS2S) project will deliver internet access, using wireless technology, to enable sailors to connect their personal devices to the internet from within the ship, while deployed globally, in order to satisfy evolving training requirements, to reduce non-operational traffic on operational bearers, and to improve morale services.

**REQUIREMENT CONSIDERATIONS:**

- Wi-Fi be accessible using personal devices (bring your own device (BYOD))
- System be able to be used worldwide
- Have throughput capability to allow for e-mail, streaming services (limited), video chats (Facetime/Skype), banking, and social media
- Support approx. 130 simultaneous users
- Meet all relevant security regulations/requirements

**PROJECT STATUS:**

- Programme of Capital Projects

  - DEVAL commenced
  - RFI posted 10 Oct – for satellite source
  - Implementation expected to commence summer 2018

**CONTACT INFORMATION:**

- IS2S Project Director
- LCdr Glen Ryan
- DNR 6-3
- [Glen.Ryan2@forces.gc.ca](mailto:Glen.Ryan2@forces.gc.ca)
- 819-939-3989

**FUNDING:**

- Total Project Value – TBD
**Victoria-class Modernization (VCM)**

**DELIVERABLE:**
- The *Victoria*-class Modernization (VCM) program provides the capability enhancements required to keep the submarines operationally relevant against the evolving threat and future operating environments. The *Victoria*-class submarines will undergo incremental modernization in the mid-2020s, which will ensure their continued effectiveness out to the mid-2030s.

**REQUIREMENT CONSIDERATIONS:**
Overall, the program outcomes will:
- enable the employment of the *Victoria*-class Submarine (VCS) in Joint Operation environments;
- increase the VCS ability to operate globally;
- enhance the VCS contribution to Canadian Armed Forces (CAF) missions through improved situational awareness, networked communications and real time information sharing; and
- improve the VCS survivability and habitability in all threat environments.

**PROJECT STATUS:**
- In Identification
  - Strategic Context Document – 2017
  - Definition – 2019
  - Implementation – 20221
  - IOC – 2026
  - FOC - 2035

**CONTACT INFORMATION:**
- VCM Program Director
  - Cdr Tony Foster
  - DNR 9
  - Anthony.Foster3@forces.gc.ca
  - 819-939-3976

**FUNDING:**
- Total Project Value – TBD
Build in Canada Innovation Program (BCIP)

- Proposals are submitted via an online submission service.
- NRC-IRAP Evaluates Proposals.
- Good/Service Testing.
- Contracting / Negotiations.
- Matching to Test Partners.
- Bidders Receive Proposal Debriefs.
- Matched proposals proceed to negotiations.
- Testing is carried out with a test partner and feedback is provided.
- Military innovations sent to the Defence Validation Committee to facilitate matching within DND.

Contact Info
- Program Site: For more information visit: www.buyandsell.gc.ca/innovation.
- Update List: Subscribe to the BCIP update mailing list (on home page of program website).
- Program E-mail: Send inquiries to: Innovation@pwgsc.gc.ca.
- Buy and Sell: Learn more on how to sell to the government at www.buyandsell.gc.ca/