THE SIR RICHARD WILLIAMS FOUNDATION

Williams Foundation Seminar

New Approaches to Air-Sea Integration in the
Evolving Extended Battlespace

10 August 2016

The Royal Australian Navy has had the ability to network and share situational awareness amongst the fleet for many years and the P-3s has been the only RAAF platform capable of being part of that network. The RAAF's journey of networking its capability journey started more recently with the Hornet Upgrade Program and has accelerated with the introduction of capabilities like Wedgetail and Vigilaire. All of the the RAAF's fleet is now capable of linking into and contributing to an Air Layer of the Joint Battle management system. With the advent of 5th Generation capabilities like the JSF and the new combat systems on the AWD as well as the design and development of the new combat systems for the Australia's future frigates, Offshore Patrol Vessels and Submarines, the ADF has a unique opportunity to influence and design in an unprecedented level of integration into the RAN's and RAAF's new platforms. That unprecedented level of integration should drive new thinking on the integration of air and sea power effects. The seminar is about examining the challenges and possibilities of the combat power in that future integrated force.

Air Force and Navy need to not only remediate existing deficiencies but take advantage of the transformative nature of fifth generation technology. The seminar aims to explore the art of the possible in future Air-Sea operations

Outline of the Seminar

Future Challenges of the Pacific Theatre – USN Approach

- What are the Challenges in the Theatre

- What are the requirements
  - Battlespace Awareness
    - We need to sense, discriminate, understand all emissions
    - Multi-spectral sensors
    - Passive detection, tracking, targeting
    - Real time spectrum awareness
    - Cyber situational awareness
  - Command and Control
    - Robust, resilient circuits, EP, Cyber security
  - Maneouver
    - Emissions management, Spread Spectrum techniques, deception and decoys
    - Manned and Unmanned Teaming
    - Passive and Autonomous Operations
  - Integrated Fires
    - How will we engage in the future?
    - Does the USN Integrated Fires Control make sense for the RAN and RAAF
      - NIFC-CA - Counter-Air
      - NIFC-CS – Counter Surface
      - NIFC-EW – Electronic Warfare

- Evolving the Kill to Chain to the Kill Web
  - What does 5th Gen Air Dominance look like?
    ◦ How do we transition from the current fight to a high tempo warfare
  - How is the 5th Gen Fight different
    ◦ Networks not Platforms
    ◦ Reach not just Range
    ◦ Information is key
    ◦ Training for the expanded Battlespace is the key to success
  - Can 5th Gen accelerate the Observe-Orientate phases in the OODA Loop?
  - Integrated Air and Sea power brings networked, interlocking fields of fire
  - Man-Machine teaming and network enables greater speed of decision

Evolving Surveillance and Reconnaissance Group's Role in supporting Navy in the Extended Battlespace

- How will SRG reshape its approach as the Navy capabilities are added to the fleet?

- How might Wedgetail, Vigilaire, JORN, and Space be evolved to increase their capability in Maritime operations?

- Discuss the synergies between the P-8, Triton and the KC-30 and how the integration of these platforms will increase Navy's ability to project Seapower

- What is SRG's vision for the future

The importance of Integrated Air and Missile Defence in a A2AD environment

- The IAMD mission as a key enabler for Australian Joint Force Operations.

- The importance of IAMD enablers (C2,Comm,ISR and supporting architecture/infrastructure) at the seams of ADF jointness

- The importance of Australian IAMD development that is highly compatible and interoperable with security partners.

- The need for a Joint IAMD CONOPS in the context of future multi-domain joint/integrated operations and definition of appropriate C2, Comm and ISR requirements

- Top level considerations for Australia to be a smart buyer of defense capabilities required for IAMD

Integration as a Joint Force multiplier in the Air-Sea Domain

- Future Joint war-fighting concepts are built around the central theme of integration

- Integration should be considered as a Force Multiplier providing strategic leverage to the whole force

- Integrating capability at the force level is hard and requires alignment of its underlying concepts, technology,programs and budgets

- Emerging strategic circumstances dictate integration must be delivered as a sovereign Defence industry capability

Plan Pelorus, Integration Design Requirements for Navy's Future Systems and Ships

- Outline Plan Pelorus

- How will the AWD, Sea 5000 and Sea 1000 work together with the P-8 Poisden, Triton, Growler and JSF to achieve the required dominance in the maritime domain?

- Projects and acquisitions must have wide angle lens, looking across the spectrum of Air Sea operations so that all players can remain inside the same information domain throughout the life of type of various platforms.

LVC Training to Enhance Operational Readiness

- Modern fully immersive synthetic environments are playing an ever more important role in training and mission rehearsal.

- They can be invaluable as a means of enhancing operational capability, especially where there are restrictions on live training, as there will be for the JSF.

- Whether you are in a JSF, Growler, P-8 or in the Ops room of an AWD or future Frigate, networked training in an LVC environment can enhance joint interoperability. There are industry led solutions that can make training more affordable, adaptable and accessible, enhancing operational capability in the process.

- What does industry see as the key challenges to be overcome and the value proposition for Air-Sea Integration?

Industry's Role in Air-Sea integration

- The importance of the development and implementation of architectural, data management and communication standards in air & sea platforms and sensors

- Open architectural approaches to future air and sea platforms

- A new industry model for product development for integrated systems

- Industry's key role in cyber and electronic security

- A collaborative approach to enabling air and sea operations

Force Generation of the ADF Air and Sea Control Capability

- How will the maritime domain Force Elements of the ADF be prepared for interdependent complex joint operations?
  - Roles of single service led and joint enabled FTX program
  - Role of JCTC
  - The efforts of Force Generation synchronization initiatives and simulation

The Queen Elizabeth Carrier and the integration of land and Sea based Air

- The RAF and RN are reinventing their approach to Carrier Airpower.

- The two services are not constrained by their immediate past and are rethinking their legacy approaches to shape the ways they are working as a more effective embarked force

- What lessons can the RAAF and RAN draw from the UK approach?

Full Spectrum Manoeuvrability in Air-Sea

- As the RAAF continues on its path of 5th generation force transformation, synchronization amd the integration of Electromagnetic Manoeuvre Warfare (EMW) capabilities across all phases of warfare will be the central tenet for joint integration.

- A fully networked force will support combat effectiveness across all mission areas ranging from establishing essential C2/communications to full spectrum kinetic and non-kinetic operations.

- Key to modernization and transformation will be introducing/maintaining interoperability of EW realted information across C2,ISR and Integrated Fires/IAMD mission sets

Joint Force Information Exchange & Data Integrity in a Coalition

- The security challenges of mixing sensors and systems across a Coalition force
- The operational constraints and physical characteristics of data exchange between ships, submarines, land forces, manned and unmanned systems
- Potential methods of assuring data and the verification of sources and end users
- A vision for the future

Land Forces and A2AD Challenges

- Extending the reach,lethality and flexibility of Australia's maritime power
    - Expanding joint force options for penetration and reduction of networks
    - Developing the capacity to provide "Reverse A2/AD envelopes
    - Highly mobile, low signature,dispersed land forces operating below detection thresholds
    - Options to seize, secure and protect forward airbases in the littorals
    - DIIP16 cross domain capabilities for Army and their implications
- What the future land force needs for future air-sea integration
    - The role of Army's future contribution to Australia's Amphibious Force
    - Insertion, infiltration and littoral manoeuvre
    - Air and Missile Defence Coverage, strategic EW and Communications and Sea Based logistics

Shaping the RAN and RAAF for Seamless Integration

- Although the ADF does have an integrated DIIP does it need more design thinking on how on the capabilities will work together
- What is the next step so that we can get across the stove piped nature of our future projects
- How will we move from our centralised C2 to one comprised of interconnected and interoperable legacy and 5th Gen C2 with distributed control and communication options?
- How would a Joint CONOPS contribute to Air Sea Integration?
- What is a possible roadmap to achieve Air Sea Integration?

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Program

Time	Topic	Name	Organisation
0800-0830	Registration		
0830-0835	Welcoming Remarks	AIRMSHL (Rtd) Errol McCormack AO	Sir Richard Williams Foundation
0835-0840	Introduction to Seminar	AIRMSHL (Rtd) Geoff Brown AO	Sir Richard Williams Foundation
0840-0920	Future Challenges of the Pacific Theatre – USN Approach	RADM Michael Manazir	N9 United States Navy
0920-0945	Evolving SRGs role in supporting Navy in the extended battlespace	AIRCDRE Craig Heap CSC	CDR SRG Royal Australian Air Force
0945-1015	Integrated Air and Missile defence in an A2AD environment	Mr Shayn Hawthorne	Tech Director, OSD & Missile Defense Agency Portfolio The MITRE Corporation
1015-1030	Break–Morning Tea		
1030-1100	Plan Pelorus, Integration Design Requirements of Navy's future Ships& Combat Systems	VADM Tim Barrett AO, CSC, RAN	CN Royal Australian Navy
1100-1125	LVC Training to Enhance Operational Readiness	RADM (Rtd) James Rapp RN	CAE
1125-1145	Industry's Role in Air-Sea Integration	Mr Patrick Winter	Intelligence and Joint Systems BAE Systems Australia
1145-1210	Integration as a Joint Force Multiplier in the Air-Sea Domain	Mr John Conway	Raytheon
1210-1300	Break–Lunch		
1300-1325	Force Generation of the ADF's Air & Sea Capability	RADM Stu Mayer, CSC and Bar, RAN	Fleet Commander Royal Australian Navy
1325-1350	The Queen Elizabeth Carrier and the integration of Land and Sea based Air	CAPT Walker RN	Strike Office Royal Navy
1350-1415	Full Spectrum Maneouvrability in Air-Sea	Mr JJ Thompson	Northrop Grumman
1415-1440	Joint Force Information Exchange & Data integrity in a Coalition	Mr Rob Slaven	L3 Communications
1440-1500	Break–Afternoon Tea		
1500-1520	The Australian Army's new role in Air-Sea integration	MAJGEN Gus McLachlan	Head of Army Modernisation Australian Army
1520-1545	Shaping the RAN and RAAF for Seamless Integration	AVM(Rtd) John Blackburn AO	Sir Richard Williams Foundation
1545-1610	Panel Session	CAF, CN, ADM Manazir, RADM Mayer RADM Rapp	
1610-1620	Formal Close	AIRMSHL (Rtd) Errol McCormack AO	Sir Richard Williams Foundation

Program current as of 31 July 2016