

# The Royal Australian Artillery LIAISON LETTER

Spring 2017



The Official Journal of the Royal Regiment of Australian Artillery  
Incorporating the Australian Gunner Magazine

First Published in 1948



# RAA LIAISON LETTER

Spring Edition  
2017

Incorporating the  
Australian Gunner Magazine

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### NEXT EDITION DEADLINE

Contributions for the *RAA Liaison Letter 2018 – Winter Edition* should be forwarded to the Editor by no later than **Friday 11<sup>th</sup> May 2018**.

### Liaison Letter on-line

The Liaison Letter is on the DRN and can be found on the Head of Regiment - Royal Regiment of Australian Artillery (RRAA) Share Point Page:

<http://drnet/Army/RRAA/PublicationsOrders/Pages/Publications.aspx> Unit Content Managers are requested to add this to their links. It is also on the Royal Australian Artillery Historical Company (RAAHC) & Australian Artillery Association websites.

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## Order of the Day

### Royal Regiment of Australian Artillery Anniversary Greetings 2017

This year marks the 146th Anniversary of the formation of the permanent component of the Australian Artillery when the New South Wales Artillery was formed. A part of this Regiment was later designated A Battery and continues in service to this day. This is also the date that, by convention, we celebrate not only the birthday of the Royal Regiment of Australian Artillery, but also our continued service to Army, the Defence Force and our Nation.

On the 1st of August we will be celebrating and honouring our illustrious history and all those that serve and have served in the Royal Regiment in peacetime and war. We should also use this time to reflect on our future and reaffirm our commitment to a future of continued exceptional service.

On behalf of the Representative Colonel Commandant, Brigadier AG Warner, AM, LVO, and the Colonels Commandant, I sincerely thank all ranks of the Royal Regiment, both serving and retired, for their outstanding service. Let us also remember at this time the many serving and retired members of the Regiment who have passed away during the last year and please join me in appreciating and honouring their service. They will be sadly missed.

Finally, our thoughts are with those members of the Regiment who still remain deployed on operations around the world. We wish them all good shooting and a safe return to their families.

*Ubique*

CD Furini AM CSC  
Brigadier  
Head of Regiment

1 August 2017



From Lieutenant General Sir Andrew Gregory KBE CB



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*Master Gunner St James's Park*

Brigadier C D Furini AM CSC  
Head of Regiment Royal Australian Artillery  
c/o School of Artillery  
Bridges Barracks  
PUCKAPUNYAL  
Victoria 3662  
AUSTRALIA

8 September 2017

*Dear Craig,*

Thank you for your kind letter of 5<sup>th</sup> July 2017 in which you extend congratulations from all members of The Royal Regiment of Australian Artillery, on my recent appointment as Master Gunner St James's Park. Your letter took a little while to catch up with me and then I've been on leave; however, please pass on my thanks to your Regiment for their kind thoughts.

I was interested in your update regarding your forthcoming 146<sup>th</sup> anniversary, noting that 'A' Battery has been in the order of battle from the start. This is similar to our 19 (Gibraltar 1779-83) Battery which was one of our first two Companies in our order of battle when the Regiment was formed on 26 May 1716. It would be interesting to know whether the Canadians and New Zealanders still have their first batteries in their Orbat, not least as those sub-units would be part of a reasonably unique 'club'; one of my staff will follow this up. In a similar vein, the re-establishment of your Reserve Artillery Regiment (9 Regt RAA) with its history dating back to 1903, might well provide an opportunity to 'twin' it with one of our Reserve, gun equipped regiments, whose batteries have a similar lineage.

I remain very keen to maintain our historical and operational links across the Commonwealth regiments of artillery and, whilst I appreciate that geographical distance and travel cost always make face-to-face Anglo-Australian events more challenging, inter-Regimental interactions will continue to be highly beneficial. Whether we can manage to get small sporting teams away (never short of volunteers) or exchange detachments for short exercises, such small links pay great dividends and are remembered by those who participated for most of their lives. I might even manage a visit myself during my tenure as Master Gunner!

I also appreciated your brief technical update; you have some very interesting and capable equipment coming into service. When combined with the extended range ammunition system, this will give your technically and tactically minded officers much to work on in order to get the best from the updates. Our School of Artillery will certainly continue to benefit from the experience and views expressed by your 'exchange' instructors, particularly as they become increasingly familiar with the new equipment.

You included a line or two regarding the "hardship and sacrifices of our predecessors" and I concur with your inference that such moments help forge the spirit of the Regiment. I suspect that Remembrance Day, 11 Nov 2018, will be a significant period of commemoration in both our countries, recognised by some major national events. RHQRA will keep in touch regarding any that you or any of your Gunners on exchange in the United Kingdom might like to attend.

I feel most honoured to have become the Master Gunner St James's Park. I much appreciate the kind words from you and your Regiment and I look forward greatly to us continuing to work together on many fronts.

*With best wishes,*

*Andrew*



*The Colonel Commandant and All Ranks of  
The Royal Regiment of Canadian Artillery extend Greetings  
to the Representative Colonel Commandant and All Ranks  
of the Royal Regiment of Australian Artillery, on Saint  
Barbara's Day, the fourth day of December, Two Thousand  
and Seventeen.*

*Le colonel commandant et tous les membres du Régiment  
royal de l'Artillerie canadienne saluent le colonel  
commandant représentant et tous les membres du Régiment  
royal de l'Artillerie australienne, en ce quatrième jour de  
décembre deux mille six-sept à l'occasion de la fête de la  
Sainte Barbara.*



IX

**Thinking about leaving the ARA but still enjoy soldiering?**

Then

Join 9th Regiment RAA

As an Officer

Mortar Operator  
Artillery Observer  
Clerical or Quartermaster staff


Up to 100 Days a year

Keep Trade and Rank  
Pay while converting

Flexible parading  
options available

We have positions in  
Sydney, Newcastle, Canberra, Melbourne, Adelaide, Tasmania, Perth and  
Brisbane, Southport.

Interested? Give the URLO a call or email and we will assist in your transition.  
Contact WO 2 George O'Connell: [george.oconnell1@defence.gov.au](mailto:george.oconnell1@defence.gov.au)  
Tel: 0408 163 441



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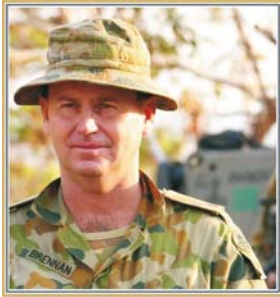
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## Editor's Comment



Welcome to the Liaison Letter 2017 – Spring Edition. This edition may seem late but in reality the apparent delay in publishing is due to a decision to include as much of the end of year activities as possible in this edition. As well it assists in reducing the number of 'return to sender' copies I receive due to the disruptions created by the end of year posting cycle.

I am still very much on a learning curve as the combined, compiler, desk top publisher (oversight from Michelle Ray) and editor of the combined journals. It is a challenging but rewarding balance. I apologise for any mistakes that were inadvertently introduced into the previous edition eg accidental duplication of paragraphs.

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*... my sincere apologies to anyone offended, upset or annoyed with my failure to ensure the spelling of 'John Carr Ewen' and 'Edward William Mattner' was correct and consistent ...*

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Further I offer my sincere apologies to anyone offended, upset or annoyed with my failure to ensure the spelling of 'John Carr Ewen' and 'Edward William Mattner' was correct and consistent throughout the last edition.

In this edition I have received a wide range of excellent contributions for all the sections. I draw your attention to submissions in the Professional Papers Section and the unit reports in the Around the Regiment Section.

I would like to thank Brigadier Neil Sweeney for agreeing to be part of the 'Five Minutes With ....' feature. He has provided frank, comprehensive and insightful answers to my questions. I think you will enjoy reading what his thoughts and views are on a range of topics.

The Head of Regiment has launched and 'Royal Regiment of Australian Artillery' facebook page. The page manager and point of contact is Major Adam White email [adam.white2@defence.gov.au](mailto:adam.white2@defence.gov.au). I encourage you to contact him with contributions.

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*Without his ongoing support, understanding and long suffering patience with me ...*

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I acknowledge and thank Big Sky Publishing for their continued support of the Liaison Letter. Further I would like to take a moment to recognise and thank Simon Giles from the Defence Publishing Service - Victoria. Without his ongoing support, understanding and long suffering patience with me as a consequence of my recent challenges in preparing the journal, Head of Regiment could not deliver our high quality journal twice a year into your mail box without the support of Simon and his staff.

Most importantly I thank all those people who have taken time to put pen to paper (or fingers to a key board) and made a submission to this edition. Without your support there would be no journal.

If you have something that is on your mind I strongly encourage you to contribute to the 'Letter to the Editor' area or if you have read book on a military related subject that you believe others will enjoy and contribute to their military education please draft a book review.

I encourage readers, regardless of rank, to make a contribution to the next edition.

DT (Terry) Brennan  
Major  
Editor

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**SUBMISSION DEADLINE  
FOR NEXT EDITION**

**FRIDAY 11<sup>TH</sup> MAY 2018**

**PLEASE SEND LIAISON LETTER  
CONTRIBUTIONS TO THE EDITOR -  
MAJOR DT (TERRY) BRENNAN AT  
ANY TIME.**

# Letters to the Editor

## Freedom of Entry – Facts Clarified

The Autumn 2017 edition of the Royal Australian Artillery Liaison Letter included an article (written by MAJ M Finnerty) which detailed 8th/12th Regiment's achievement of being granted Freedom of Entry to the city of Palmerston on 19th April 2016. Whilst this occasion represents a significant milestone for the men and women of the 8th/12th Regiment, it should be noted that the article incorrectly referred to the 8th/12th Regiment as the first military unit to be granted Freedom of Entry to the City of Palmerston. The commander, officers and soldiers of the 1st Brigade were granted Freedom of Entry to the City of Palmerston in 2000 under the command of Brigadier David Hurley. Both occasions represent the strong relationship which exists between the men and women of the 8th/12th Regiment, the 1st Brigade and the City of Palmerston.

Best Regards, Max Williams  
Adjutant. 8th/12th Regiment RAA

### Editor

*Thank you for clarifying the situation. It is essential the Royal Regiment's history is captured and recorded accurately to avoid confusion and misrepresentation of the facts to future generations of Gunners not to mention historians.*

## Long Tan Generates Discussion

I have just received the autumn editions of the Liaison Letter and Cannonball.

One of the first articles I read was the one penned by Arthur Burke. Once again Arthur has written a very interesting article which highlights the importance of artillery at Long Tan; a decisive contribution to the battle which is so often overlooked.

However, I must take issue with his numbers. It seems that the number of enemy D/6RAR faced on 18th August 1966 keeps increasing with the passing of the years. I had seen 2,500 previously but never the 4,000 quoted by Arthur.

I have wondered about the true number myself and a few months ago enquired of an ex intelligence corps officer who has some expertise in the various actions in which the Australians fought in Vietnam. His advice to me was: "After some quite detail research, my best guess is about 1,750."

Given the likely sizes of the various units involved, I believe this is a sensible and likely to be accurate figure.

Yours sincerely, Greg Gilbert

## Arthur Burke Answers

As the prelude to my article says, it was based on Ian Darlington's notes. The 4000 was Ian's figure.

I agree with Greg that the number of enemy has always been controversial so I will check with a mate of mine, former Intelligence Corps Brigadier (Retd) Ernie Chamberlain AM who has done much research and writing on this subject. He has also translated Vietnamese records so will give a balance opinion.

Ubique, Arthur

### Editor

*Greg thank you for your interest and for taking time to write and to Colonel Arthur Burke for answering the query.*

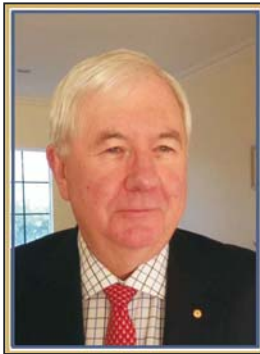
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# Regimental

## Representative Colonel Commandant



*Brigadier AG (Gerry)  
Warner AM, LVO  
(Retd)*

## Head of Regiment

*Brigadier CD (Craig)  
Furini AM, CSC*



## Combined Forward

Welcome to the latest edition of Liaison Letter. We hope that the Christmas period has been relaxing and enjoyable for all members of the Gunner family, and that 2018 is full of opportunity, happiness, good health and success.

Many will note that this edition of Liaison Letter is delayed. This has been a conscious decision to better align publishing with the normal cycle of Regimental life. This will enable editions to be published in August and February covering the first and second half of the training year respectively. Most importantly this will allow the significant end of year activity in each of the Regiments to be captured in a timelier manner, and for the Regiments' to provide an annual summary of their training year.

The 2017/18 posting cycle saw significant change in key appointments across the Royal Regiment. Congratulations to all of the departing Commanding Officers (Alywn Payne, Peter

Grant and Scott Fletcher) and Regimental Sergeant Majors (Stephen Schuman, Dean Sinclair, Jason Jarvis and Damien Lindsay). Thank you for your leadership and collegiate approach that has allowed not only your units, but the RAA to flourish. Thanks also to those Gunners moving on from other Regimental and Artillery staff appointments. You have all made significant contributions and we wish you well in your next appointments - Once a Gunner, Always a Gunner.

The Royal Regiment welcomes the new Commanding Officers (Paul Duncan, Rod Lang, Lachlan Searle and Nick Wilson) and Regimental Sergeant Majors (Nathan Cole, Paul Boswell, Jaimie Cornwall, Reg Grundell and Stephen Schuman) to the RAA senior leadership team. Congratulations on your appointments; the Regimental Colonel Commandant and I look forward to working with you over the next two years.

Good luck also to all those assuming new appointments across the Regiment, and in particular welcome to those who have recently joined the Royal Regiment, whether young officers or IETs. All members of the Regiment wish you well and trust that you will find your career professionally and personally enjoyable and rewarding.

Congratulations to those who have been promoted or recognised for their performance and contribution to the Regiment in 2017.

Congratulations to Lieutenant Victoria Roadnight who received the Brigadier WJ Urquhart Trophy for the best performing graduate allocated to the RAA from the December 2017 RMC graduating class.

Congratulations also to Bombardier (now Sergeant) Rohan McCaig (8th/12th Regiment), and Gunner Jake Hill (4th Regiment) who have been recognised as the 2017 Bombardier and Gunner of the Year. Selected from an impressive group of individuals from across the RAA, these members were presented with the Ewen and

Mattner Awards on 10th November 2017 at the Regimental Conference.

The inaugural winners of the Ewan and Mattner Awards, Bombardier Aaron Bamford (20th Regiment) and Lance Bombardier Jacob Aitchison (8th/12th Regiment) travelled to the UK for two weeks in late 2017. By all accounts they had a great trip visiting the Royal School of Artillery, 47 Regiment and 1 Regiment Royal Horse Artillery as well as ‘behind the scenes tours’ of the Kings Troop, Honourable Artillery Company, Buckingham Palace, the Tower of London and many more sites. A report of their trip can be found later in this edition. These prizes are funded by money raised through voluntary contributions to the ‘Gunner’s Fund’. While providing these prizes is important they represent a significant and major recurring financial undertaking that requires ongoing financial support from all Gunners if it is to be sustained, and indeed expanded to include prizes for the Reserve Bombardier and Gunner of the Year every two years starting in 2018.

Unfortunately the membership of the 12th Field Regiment (Vietnam) Association has taken the decision to disband their association. The association members have a proud record of operational service to our nation. Whilst it is sad to see the sun begin to set on a proud association, it highlights that the Royal Regiment is a living entity that is continually evolving. The association has proposed a number of initiatives to forge an enduring connection with the serving Regiment. These great initiatives recognise the passing of the baton between generations and reinforce the bridges between our past, present and future. I would like to take this opportunity to acknowledge the contribution made by the association members to the planning and organization of the 40th anniversary of the Battle of Coral in 2008. As the Commanding Officer of 8th/12th Medium Regiment at the time I observed the drive, passion and dedication displayed by the members and was honoured to be part of the commemoration.

Any other associations contemplating disbandment are encouraged to reach out to the relevant serving Regiment, Battery or Head of Regiment so that we can appropriately recognise and preserve your contribution to the Gunner family.

There will be two major commemorative events for the Regiment in 2018. The first will be the

raising of 9th Regiment RAA. While the Regiment will be raised on 15th January 2018, a parade will be held later in the year, most likely in April in Sydney. Further details will be provided once confirmed. This is a major milestone in the evolution of the Royal Regiment that would not have been possible without the work of Gunners across Army, in particular the work of Lieutenant Colonel Stu James, the project officer; and Major Stuart Seabrook and his team in the 2nd Division Headquarters Fires Cell. The entire Regiment wishes the new Commanding Officer, Lieutenant Colonel Lachlan Searle, the Regimental Sergeant Major, Warrant Officer Class One Reg Grundell and all ranks good shooting and every success. Removing the Light Batteries from Infantry Battalion command and re-establishing an artillery command and control structure within the 2nd Division will have a far reaching and positive impact on the Reserve component of the Royal Regiment and provide the supported units of the Division with a superior indirect fire and fire support coordination capability. To that end we thank the Chief of the Army for his support in making this initiative a reality.

The second major commemorative event in 2018 is the 50th anniversary of the ‘Battle of Coral’. This commemoration will be held in Canberra over the weekend 12th-13th May in two parts; the first is a Department of Veterans Affairs (DVA) service and luncheon in the vicinity of the Australian War Memorial and Anzac Parade; the second will be a dedicated RAA commemoration and dinner. Funding is being sought from DVA and from Army to support veteran attendance and for representatives of the current 8/12th Regiment RAA, 102nd ‘Coral’ Battery and 131st Battery to attend. Planning for these events is being finalised therefore everyone should regularly check social media and internet sites for further information and details.

As mentioned earlier the annual RAA Conference in November included the Regimental Committee meeting and the Regimental farewells. This was a very positive conference which focused on identifying solutions to solve current capability issues, and to develop concepts for future initiatives. A key component was discussion and development of a new RAA Regimental Strategic Plan. Colonel Nick Foxall, the Assistant Head of Regiment, is consolidating all the input so that the Regimental Committee can endorse and issue the new plan early in 2018. Part of this plan will include an

updated ‘Communications Strategy’. To that end two new initiatives have been introduced. First, the Head of Regiment now has a Facebook presence (*‘The Royal Regiment of Australian Artillery’*). The site seeks to draw attention to the great work being done by today’s serving Gunners, reinforce the important links to the wider family of Australian Gunners, highlight our history and further celebrate our illustrious and unique Gunner identity. All Gunners, serving and retired, and families are invited to ‘follow’ the site.

Second a Head of Regiment ‘challenge coin’ has been minted. The ‘coin’ will be presented to Gunners and others as a small token of appreciation or in recognition of their service. The ‘coin’ carries the words *Accurate, Responsive, Dependable* and *Joint*. These words are analogous to the ‘on-time, on-target and safe’ that has been used extensively in the past, but have been updated to reflect the full range of capabilities provided by modern Gunners. These words describe how we want to be regarded by the joint and combined-arms team and how we go about the business of providing the four elements of Gunner capability; indirect fire support, integrated air and missile defence, surveillance and target acquisition, and joint fires and battlespace integration, coordination and synchronisation.



While 2017 was a busy and successful year for the Gunners, 2018 is shaping up to be just as busy and hopefully even more successful, but there is a lot of work to be done. We, the Representative Colonel Commandant and Head of Regiment, remain committed to continuing to serve the Gunner community and look forward to working and engaging with you throughout the year.

***Accurate, Responsive, Dependable and Joint***

*Ubique*

*RCC & HOR*

## Regimental Master Gunner

*Warrant Officer Class One DT (Paddy) McGarry*



### **RAA Trade & Training**

As I write this article I look back at how fast 2017 has gone. Once again the continue evolution of introduction-into-service of new RAA capabilities, developing doctrine, refining training

management packages supporting current equipment, having a statement of relevance, enhancing the Officer and Other Ranks Employment Specifications (ES) and supporting trade models.

The RAA achieved the following in 2017 and will continue to introduce new equipment into service throughout 2018. Marwin MW32 (MET System), 60mm & 81 mm Light Weight Mortar Capability (Digitisation), High capability field vehicles, (GTV), Future Artillery Ammunition trials, Unit Loading Ammunition Container system, Ultra Light Howitzer - M777A2 hardware upgrade, Ongoing upgrades with the Advanced Field Artillery Tactical Data System (AFATDS), Digital Terminal Control System (DTCS) for our Joint Fire Teams, Short Range Ground Based Air Defence system, just to name a few.

***It is very rewarding and personally satisfying seeing the Regiment continuing to grow in capability and leading the Army in most cases on raised, train and sustain concept ...***

With all new equipment and ammunition, policies and procedures with supporting material and doctrine are to be produced, aligning with at times the construction of courses. This would not be possible for the support; gracious time and effort the RAA have given throughout 2017 as the RAA moves forward. It is very rewarding and personally satisfying seeing the Regiment continuing to grow in capability and leading the Army in most cases on raised, train and sustain concept along with continuing to raise the skill levels of our existing members through realistic training and expectations.





I would like to mention the efforts of SGT Gary Bradford in the RAA Trade and Training management Cell at Combined Arms Training Centre (CATC) awarded the Commandant's Commendation and medallion for enhancing the Air Missile Defence Systems capability. He has gone far beyond his role in learning package management, conveying his intentions clearly to identify the best outcomes possible to effect the split trade execution and the introduction of new equipment aligning with the trade models. SGT Bradford has exhibited an excellent resolve to manage and implement training structures for Air Land Wing at the School of Artillery and 16th Air Land Regiment. He has displayed professionalism in his communication to the wing, regiment and has been extremely supportive and patient when requesting training information to conduct learning outcome changes and lesson packages.

### RAA Warrant Officers and Senior Non-Commissioned Officers Annual Farewells

The 2017 RAA Warrant Officers and Senior Non Commissioned Officers farewells was a success. The farewells are an enduring tradition within the Regiment. It provides an opportunity for 'Gunners' to gather, socialise and appropriately farewell members of the Regiment who through their service made a significant contribution to not only the RAA, but to the Army and nation.

The RAA WO/SNCO farewells is traditionally the medium to farewell those members who have provided many loyal years of service to the RAA. It is a fitting environment in which to honour these individuals and keep the farewells as the penultimate event on the RAA social calendar.



From Left to right: WO2 Dave Warren – 30 years; SGT Steve Brackin – 30 years; WO1 Brendan McIntyre – 28 years; WO1 Dave McGarry – Regimental Master Gunner; BRIG Craig Furini, AM CSC – Head of Regiment; WO1 Shaun Graham – 27 years; WO2 Paul Johnston – 30 years; and WO1 Mark Clayton – 33 years

A special mention to the organising Committee who worked tirelessly supporting throughout the success of the RAA farewells: SGT John Sennis, School of Artillery; WO2 Paul McMillan, Combined Arms training Centre; WO2 Nick Windridge, School of Artillery; SGT Rowan Temple, School of Artillery and SGT Gary Bradford, Combined Arms training Centre.

### 50th Anniversary Fire Support Base Coral

As 2018 approaches the RAA has a very significant milestone the 50th Anniversary of the Fire Support Base Coral on 13th May 2018. A Diorama depicting a bloody battle in the Vietnam War has been restored to its former glory thanks to volunteers at the Puckapunyal District Neighbourhood Community Men's Shed. Australian units withstood heavy enemy attacks during which a mortar platoon from 1RAR and two gun positions from 102 Fd Bty were partly over-run. The Australians drove off the enemy after fierce close-quarter actions. The battle lasted more than two hours.



Fire Support base Coral Diorama at School of Artillery, RAA



The Commandant Combined Arms Training Centre, Colonel Marcus Constable CSC and the RAA Colonel Commandant Eastern Region, Colonel Ian Ahearn (Rtd) with the men and women from the Puckapunyal Military Area Men Shed

It is very pleasing to see the RAA personnel doing well across the ADF's commitments in 2017.

I am looking forward remaining as the Regiment Master Gunner in 2018. Once again thank you for your dedication, professionalism, persistence and positive support throughout 2017, good soldiering for the challenges that lay ahead.

I trust you and your families enjoyed a Very Merry Christmas and a Happy New Year.

*Ubique*

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## 2 Div Joint Fires Cell

This is the last article to be written by the Joint Fires Cell at HQ 2 Div as the cell is to be disestablished on 15 Jan 18 to form the nucleus of RHQ of 9 Regt RAA and move from Randwick to Kogarah from January next year. The 2 Div Joint Fires Cell has been in existence since 2013 and the amalgamation of the Light Battery into Infantry Battalions. The cell has been pivotal in the development of the ECN 161 Light Artillery Trade and the development of the joint fires and effects capability that supports the Reinforcing Battle Group. The role of the JF cell within HQ 2 Div over the past five years has been an unenviable one – attempting to husband a fledgling capability to maturity with scarce resources and a convoluted C2 structure. The creation of 9 Regt RAA is the culmination of 5 years hard work from many individuals, most notably MAJ Stu Seabrook and WO2 George O’Connell, and will see the continued development of the ARes artillery capability.

The focus for the 2 Div RAA communities continues to be the provision of a fully manned, trained and equipped Lt Bty as part of the reinforcing BG. This year, 5/11 and 3 Lt Btys combined to provide the Lt Bty for BG CANNAN on EX HAMEL 17. The Lt Bty, commanded by MAJ Ben Dullroy, integrated extremely well into both BG CANNAN and the wider ARA Combat Brigade fires architecture and set a very high standard for future Lt Btys to achieve. Supported by his IG (CAPT Michael York) and his BSM (WO2 Taff Davis) the BC provide a strong level of joint fires planning, advice and execution in support of the BG COMDs plan. On several occasions the gunners were able to provide enhanced situational awareness to BG CANNAN via the AFATDS network provided by 4 Regt RAA due to the unreliable nature of BMS during the exercise.

In addition the 2 Div Lt Btys provided eight Gun Numbers to reinforce 4 Regiment RAA. The Gunners from 2/10, 7 and 23 Lt Btys completed a 4 day CIT course and then were employed as Gun Numbers on the M777A2 for EX HAMEL 17. The ARes Gunners were well integrated by 4 Regiment RAA and thoroughly enjoyed their exposure to the M777. As a result two of the eight have applied to transfer to the ARA. While 9 Regt will lose some of its more dedicated soldiers as a result, the RAA is stronger for the continued strong linkages between the ARA and ARes.

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*... Joint Fires Cell at HQ 2 Div as the cell is to be disestablished on 15 Jan 18 to form the nucleus of RHQ of 9 Regt RAA ...*

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The current focus of the 2 Div Gunner community is the preparation of 7 and 23 Lt Btys who will form the Lt Bty for BG WARATAH to be commanded by MAJ Steve Rowe. Although BG WARATAH has only completed one major CPX, the Lt Bty’s JFECC was judge the best prepared element of the BG HQ. The BC supported by his BK (CAPT Dustin Gold) played a major role in assisting the BG HQ staff, who did not have much experience working at BG level to achieve the training outcomes.

Over the past two years MAJ Stu Seabrook and WO2 George O’Connell have worked to further refine the ECN 161 Artillery Light Gunner trade model; continuing the effort commenced by WO1 Shaun (Gnarly) Graham and WO2 Dave Carter when the cell was established in 2013. The ARes component of the ECN 255 stream has now been absorbed into the ECN 161 trade, and is a unique capability that only exists in the ARes. Furthermore, the promotion and trade advancement continuum has now been finalised and is in the process of publishing and implementation as of Jan 2018. The finalisation of the ECN 161 continuum will now allow for a more coherent and logical career progressions, which will result in soldiers promoted and filling long vacant SNCO and WO positions in coming years, thus making the trade model a sustainable one.

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*MAJ Stu Seabrook will discharge at the end of 2018 following in excess of 45 years’ service with both the RA and RAA.*

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From a capability perspective, the future looks bright for reserve gunners. Over the course of the next 36 months, ARes gunners will receive new M252A1 mortars, the M31A1 Mortar Ballistic Calculator and Digital Terminal Control Suites for JTFs. This new equipment will not only further enhance the joint fires and effects that ARes gunners can provide, it will also truly link ARes gunners to the broader joint fires architecture (AFATDS) that is employed by the ARA.

On the 15 January 2018, 9 Regiment RAA will be established to be commanded by LTCOL Lachlan Searle. The creation of the ARes Regiment will provide several advantages, most notably:

- A single “CHAMPION” for Ares RAA issues
- Enhanced career management with CMA through engagement, liaison and personalized management of individuals for key appointments
- More coherent links to Army and RAA modernisation, most notably MOD-A, DLFD-A and CASG.
- Greater control over individual and collective training within the ARes, particularly the identification and exploitation of opportunity training as part of the ‘Road to HAMEL’ and ECN 161 training progression
- Deeper and more relevant linkages with ARA RAA

Finally, MAJ Stu Seabrook will discharge at the end of 2018 following in excess of 45 years’ service with both the RA and RAA. MAJ Seabrook has been a strong advocate for ARes gunners over the past 5 years and a driving force behind the development of the capability. He was rewarded for his efforts with the awarding of the Conspicuous Service Medal in the 2016 Australia Day Honours. Over the past few years, all ARes gunners have benefited from his dry sense of humour, commitment to the RAA and fearless advice. All members of the RAA wish him the very best in retirement.

Postings out:

- LTCOL Stu James- G3 HQ 2 Div
- MAJ Stu Seabrook – Discharge
- MAJ Mick Grey- CAG

- MAJ Phil Wong – CSC
- MAJ Ben Dullroy- CSC
- CAPT Nick Mahr- CTC
- CAPT Luke Haitas- 2/10 Lt Bty (to ARes)
- CAPT Nick Pychtin – 8/12 Regt RAA
- CAPT Richard Donohue- SOArty
- CAPT Mick York – 1 Regt RAA
- WO2 Scott Caswell- on promotion to
- WO1 – MG 4 REGT RAA
- WO2 Phil Pollard- Discharge
- WO2 Jozef De Goede- HQ 2 Div
- WO2 Bryce Watson- 1 Regt RAA

And we welcome those being posted to 9 Regt RAA:

- LTCOL Lachlan Searle – CO
- MAJ Glynn Potter- OPSO
- MAJ Ben Clancy – S7
- CAPT James Wood- ADJT
- WO1 Dean Sinclair – RSM
- MAJ Robert Love – BC 6/13 Lt Bty
- MAJ Chris Flear- BC 5/11 Lt Bty
- MAJ Marcus Jones- MAJ to BC 7 LT Bty
- CAPT Eric Dempster- IG 2/10 Lt Bty
- CAPT Cameron Phasey – IG 23 Lt Bty
- CAPT James Stamell- IG 7 Lt Bty
- CAPT Des O’Brien-IG 6/13 Lt Bty
- CAPT James Cranley- IG 5/11 Lt Bty
- CAPT Prudence Connell- IG 3 Lt Bty
- WO2 Dennis Theiss- BSM 23 Lt Bty
- WO2 Bradley Wakefield- SMIG 23 Lt Bty
- WO2 Darren Jackson – SMIG 7 Lt Bty
- WO2 Joseph Millington- SMIG 3 Lt Bty
- SGT Geoffrey Wallace- SMIG 5/11 Lt Bty

## Five Minutes With ... Brigadier Neil Sweeney

### Deputy Commander 2nd Division



Congratulations on your appointment as the Deputy Commander of 2nd Division. I know your Reserve connection commenced early in your career at 1st Regt RAA when it was part of the short lived Ready Reserve Scheme. Since those

early years you have had little direct connection until now with the Reserve. As a senior officer in such an important command appointment in the Reserve do you feel this 'distance' enables you to bring a fresh perspective to the issues and challenges confronting the Reserve in the modern digitised Army?

*Thanks Terry, there is no doubt that the Army Reserve is a very different place these days. It would be fair to say that the 'Total Force' concept is now well embedded. I have returned to a reserve force that is very different to the one I had observed over a number of years in different appointments. Plan Beersheba has demanded a more integrated approach. I would hope that I bring a new perspective to the excellent work that has been undertaken in the Reserve and that I can add a bit of value. We will be depending on the high levels of support we have already received from the Regular Combat Brigades and Training Centres to deliver an Army Reserve based force that is capable of meeting the challenges of the modern operating environment.*

It has been said to me at times that the Army Reserve is a relic of the past and since the 'Regular' Army was established post the Second War it has increasingly, and more rapidly recently, become less relevant due to a combination of increased technology and the associated training burden and skills fade, poor recruiting, hollow units with a lack of resources and a degree of elitism on the part of the full-time Army members towards Reservists. This is despite the best efforts of senior commanders to

promote and espouse the 'one Army' philosophy. Some argue the Reserve has been kept on 'life support' simply for political reasons by successive Governments. This finally brings me to my question – Is the time right and the political will present within Army and our politicians to completely change our Reserve system and the rationale of its deliverables to Government? I cite as an example only having specialist units and create state or regional based 'staff' units.

*A very big question Terry. The role of the 'Citizen Soldier' has been an important one in the development of our Army. From the very genesis of the force it was recognised that the Defence of Australia would demand both full time and part time forces. These part time forces have had many names; Militia, Citizen Military Forces, Army Reserve. We don't need to completely change the reserve model but we need to continue with its transformation. Under the umbrella of Plan Beersheba and leveraging the Force Generation Cycle, 2nd Division has successfully and consistently delivered the Reinforcing Battle Group to the Ready Combat Brigade on Ex Hamel. This year on Ex Talisman Sabre/Hamel that Battle Group consisting of 860 personnel delivered PMV mounted infantry companies, Engineer Squadron, Light Battery and a range of logistic and administrative capabilities. 2nd Division provided supplementation to Regular Army units and headquarters as part of its 'Library of Capabilities' and provided staff to the Combined Headquarters. We are also transforming the way we train through a new training formation, 8th Brigade. So the plan is to deliver better training and capability from the reserve. 2nd Division also maintains a number of personnel on operations in all theatres where we operate. Closer to your question, there are some plans to review other niche capabilities that a reserve force, tapping into civilian competencies might be able to leverage to support our operations. So we are transforming the reserve force for better quality outputs with a firm eye fixed on the future.*

Your bio highlights a somewhat unusual aspect of your career in that you have gained significant leadership experience commanding in what can be the very challenging area of humanitarian and

disaster relief. Has experience influenced your perspective as to whether as an Army, we are structured appropriately to support such events be they natural or manmade? Or for that matter should we do anything differently eg developing directed training, individual or collectively, as it appears to me that Government is increasingly relying on Defence and especially Army to meet these short notice crises.

*I have been privileged to serve on a range of operations. I was very lucky to be in the right places to deploy to Lebanon in 2006 to assist with the evacuation of Australian nationals during the Israeli and Hizbollah War and then again to deploy to Padang in Indonesia on a Disaster Relief mission. In both instances the forces I commanded were tailored specifically from standing elements to meet the requirements of each specific environment. In Padang as an Artillery Commanding Officer I found myself in command of an Engineer Squadron and a Hospital element with staff from Headquarters 1st Brigade as my command team. Our organisation is flexible enough to adapt. The key is always the quality of our people. Giving our soldiers and officers the right basic skills in planning, and command and the confidence to be decisive in uncertain and complex environments is critical. I found my foundation skills training as an Artillery Officer to be a solid foundation from which I could work in just about any environment.*

As a Senior Gunner officer you have had wide ranging technical, tactical and command experience at every level within the Royal Regiment. Since that time your focus has been on higher Army roles as well as in a Defence environment, which has left you little time to monitor, even from afar, the development and evolution the RAA. In the last year you have had the opportunity to re-engage more closely with the Royal Regiment as part of overseeing the establishment of 9th Regiment RAA. Do you have any observations or comments on where the RAA is currently positioned in terms of capability development and looking to the future both from a Reserve as well as a full-time perspective?

*The RAA has completely changed for the better in the last few years. It is almost unrecognisable to me in a number of ways. The pace of change*

*has been remarkable but I am always impressed with the way Gunners embrace change, in particular new techniques and technologies. Overall, I think the RAA is leading the way in terms of digitisation. The use of communication systems to deliver precise effects is not new to us. The early adoption of AFATDS has put us in an excellent position to be a central part of any future force and to assist Army more broadly on its 'Digitisation Journey'. As for 9th Regiment, I truly believe this is a very positive step for the Gunner Community in 2nd Division. I was pleased to learn about the raising of the regiment and look forward to the 9th Regt team improving standards of training and capability in 2nd Division. I also applaud all the Gunners who have maintained a steady course in the Light Batteries. The journey has not been easy at times but ultimately I think it will be worth it.*

As the Army addresses the post Afghanistan era, what level and type of training should be the focus for Army and in particular the Royal Regiment in preparing for future contingencies and do you feel the Regiment is appropriately structured to best meet these challenges?

*This has been a fairly consistent question over the years. To me it is very apparent that as an Army we must continue now to focus on foundation warfighting in a joint and combined arms environment. It is easier to 'step down' from a conventional combined arms setting but very difficult to step up to it. The RAA has always trained for this environment. As coordinators of effects we find ourselves at the heart of the Combined Arms Team and indeed the Joint Force and that is where we need to stay, challenging ourselves to work in complex operational environments. Whilst there has been some change to structures and nomenclature it would appear that our basic regimental structure, that you and I are familiar with has stood the test of time. We should remember though that our structures are a start point. We should remain adaptable and be ready to contribute to the combined arms team in any capacity presented to us. Remember though that the real capability are our people and that is where we need to focus our efforts to maintain a competitive edge.*

'Digitisation' is on the lips of everyone including the Commander 1st Division, Major General Paul McLachlan, who emphasises that the Royal Australian Artillery and its new capabilities are at the fore front of these changes within Army. What do you believe are the key 'force multiplier' benefits digitisation that brings to 'warfighting' including for artillery?

*General McLachlan has been on the 'Digitisation Journey' longer than most. I remember his successful efforts to develop a 'Sensor to Shooter' System at 8<sup>th</sup>/12<sup>th</sup> Medium Regiment in 2003. Of course the RAA has had a quantum leap in its digitisation since then building on these formative experiences. Force multipliers are a critical part of an Army such as ours. Digitisation delivers information dominance and decision superiority. The Common Operating Picture, providing a Commander with a means to visualise and understand the battlespace delivers that decision superiority. Finally a digital system allows for rapid execution of intent forcing the enemy to react to us and ensuring our maintenance of the initiative.*

As you have gained experience and seniority how has your leadership style evolved and what are the fundamental personal principles and values on which you base your conduct and related decision making especially when the outcome could be unpopular or worse still unpleasant but which must be taken all the same?

*In terms of values it is simple. Our Army values of Courage, Respect, Initiative and Teamwork are the platform I work from and apply. As you become more senior and move to work in joint or inter-agency environments you do need to adjust your style. The ability to motivate and encourage are key. Accepting compromise and negotiating in a respectful manner are also important. What I have found is that regardless of background or service, people in Defence are driven and motivated by the same things. Patience, diplomacy and a collegiate view to progressing an issue are key to your success in those 'out of regiment' appointments. We all have to make unpopular decisions at times. What is key is to provide context and allow the team to adapt to the requirement. We are a pretty resilient bunch all told, used to hardship and once we understand the context I have found people get*

*on with the job. Of course we grumble Terry but there is a level of satisfaction in delivering an outcome in challenging environments.*

I appreciate you have had extensive exposure to working in the higher levels of Defence in Canberra especially in the strategic commitments area. Have you been required to modify your leadership style as a senior officer in the course of working with senior public servants and politicians?

*This is related a little bit to my previous answer. There is no doubt that you have to adapt to a different Defence or inter-agency environment but if you apply the Army values to your conduct then you can't go wrong. Ultimately, people working at the strategic level want to ensure Australia continues to enjoy its freedoms and opportunities and are passionate about our security. You might have to explain a technical military issue in layman's terms to inform a decision, which is the primary reason you are there. Just be yourself, be respectful, inclusive and collegiate, particularly in those challenging situations and you will be fine.*

During your military service what are some of the fundamental changes you have witnessed in culture and / or capability?

*Army and the RAA continue to evolve and change for the better. Many of us hark back to 'The good old days' and that is fine but I like to think what comes next will be better. Our Army has significantly increased its capability as part of a significantly more capable ADF. Our capacity as a Defence Force to project offshore has been a significant leap. The integration of operational experience into our training has changed our approach to operations. We have come a long way since I joined in 1990. Our culture has changed too. We value inclusivity and diversity in our workforce. It is evident to me that the cultural review in Defence has paid wide ranging dividends back to our capability. We have no tolerance for unacceptable behaviour and we are looking after our wounded ill and injured. We need to remain vigilant on our cultural front, it is important that we remain a safe and respectful organisation. It is part of delivering on our valued service to the nation.*



What part do you believe your Regimental training, background and experiences played in preparing you for higher level non Artillery appointments?

*It has played an enormous part in providing me with the skills to work in a range of environments. Gunners coordinate and de-conflict, we synchronise and we do it in time constrained high pressure environments. We are precise and we independently check our work. We schedule and we complement and support the combined arms team. In general we are not easily offended. If all that combined with a sense of humour doesn't get you through then I am not sure what will. I am indebted to the RAA and a wide range of Gunners for their investment in me over the years.*

As a senior commander with ever increasing demands on your time and conflicting priorities how do you maintain the appropriate work life balance that is regularly referred to within Army? Further more, do you have any particular advice for the readers, especially those still serving with regard this personal challenge?

*Look it is tough to find the balance. You have to work at it but Army is a fantastic employer and understands that family support is an essential part of capability. I have always been of the view that I will spend a longer time out of Army than I ever will in it. Investment in your family is essential. They are the ones who will get you through those hard times. Do your best to be there for those key family events. Birthdays, school plays, graduations, even from kindy! I have coached or managed football teams with varying success in all the places I have been posted to. You have to plan out the time and let your commander know about these important events and that you want to attend. Now, I have missed countless birthdays and other important family activities but when I can I am there. I switch the phone to silent and I focus 100% on the family. Try to avoid bringing work home, sometimes it is required but it is a bad practice. You have to encourage the balance as a commander in particular. If you get it close to right you will find your capability actually increases. Work-life balance is critical to your own well-being also. When you are at work focus*

*on work and when you go home focus on your family and learn to relax.*

What do you consider as some of your most memorable career highlights not related to the Royal Regiment?

*Being a member of the first Australian Army Training Team Iraq in 2004 in Northern Iraq was an amazing experience. I worked with an exceptional team of men and women on that mission, many of who were Gunners. Participating in the NEO out of Beirut in 2006 was exhilarating because it was the first time I had an independent level of command and it was a complex environment. My most recent deployment as Deputy Commander Joint Task Force 633 really exposed me to the quality of all of our servicemen and women and it was an honour to be entrusted with the appointment.*

As a senior Army Commander do you subscribe to the old adage 'Once a Gunner always a Gunner'?

*Of course. You can't walk away from your formative experiences. The challenge is to ensure that a regimental view of issues does not blind you to a service or Defence level view. I am passionate about what the RAA delivers to the Combined Arms Team and understand its value. You should be proud of where you come from but always understand the bigger picture.*

What do you consider as the highlight or pinnacle of your Regimental service?

*A single highlight is genuinely hard to pick because there have been many and I have enjoyed all my service in the RAA. Being selected to command 8th/12th Medium Regiment would have to be a highlight. It was an appointment I was very invested in personally. I had an outstanding RSM, excellent officers and passionate Warrant Officers and NCOs. The soldiers, both Gunners and Privates worked exceptionally hard. We did some great training, supported a significant level of operations and did our best throughout. When I personally needed support to take care of a family matter, the Regiment immediately stepped up as it did for everyone else. It is in those personally challenging times when you realise the true*



*value of regimental life and what you are a part of. Before you ask, yes I do miss it!*

What single piece of advice would you offer young officers and soldiers commencing their career as a Gunner?

*Enjoy your time in the regiments and at the school. Take every opportunity to learn from your peers and to develop yourself through education and training courses. Remember, a bad day in a regiment is still a pretty good day, trust me!*

Are the young officers and soldiers of today better prepared for their first appointment than you were when you graduated?

*I would have to say yes. I felt that I was well trained by the system but it was the investment by others in me that truly got me over the line. Our training system, both formal and informal, is the envy of many armies and it improves continuously. I have seen our young men and women deliver exceptional service with great empathy and professionalism both domestically and on operations as a result of this training and development. I have great faith in our next generations of young officers and soldiers. I firmly believe they are up to any challenge and it is an honour to lead them when you are given the opportunity.*

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### **Profile**

*Brigadier Neil Sweeney was born in the Republic of Ireland and emigrated to Australia in 1989. He graduated from RMC Duntroon in June 1991 and was commissioned into the Royal Regiment of Australian Artillery.*

*Brigadier Sweeney has served in a wide range of artillery regimental appointments at 1st Field Regiment and 8th/12th Medium Regiment. He served as the Commanding Officer of 8th/12th Medium Regiment from 2009 to 2010. His training experience includes instructional and doctrine writing appointments at the School of Artillery, Puckapunyal and as an Exchange Instructor at the United States Army Field Artillery School, Fort Sill, Oklahoma. Brigadier Sweeney has served as; an SO1 at Deployable Joint Force Headquarters/Headquarters 1st*

*Division, Military Assistant to Commander Forces Command in 2011, as G3 Forces Command from mid-2011 until late-2013 and as Director Future Military Commitments, Military Strategic Commitments Division in 2016.*

*Brigadier Sweeney deployed as a Battalion Mentor to Tal Afar and Al Kasik, Northern Iraq with the first Australian Army Training Team – Iraq in 2004. He commanded the Defence Supplementation Staff based in Beirut, Lebanon during OP RAMP, in July and August 2006. He was initially deployed as the Commander of JTF 629 for OP PADANG ASSIST, Australia's response to a 7.6 magnitude earthquake off the coast of Sumatra in October 2009. Brigadier Sweeney deployed as the Chief of Stability Operations at Headquarters Regional Command (South), Afghanistan from December 2013 until August 2014. Brigadier Sweeney was appointed as Deputy Commander Joint Task Force 633 from July 2016 until mid April 2017.*

*Brigadier Sweeney is a graduate of the Australian Command and Staff College and the Centre for Defence and Strategic Studies. He holds a Bachelor's Degree in Management and Professional Studies from Southern Cross University and a Master's Degree in Management and Defence Studies from the University of Canberra. Brigadier Sweeney completed a Master's Degree in Business Administration through Deakin University in February 2016.*

*Brigadier Sweeney is currently posted to Headquarters 2nd Division as the Deputy Commander.*

*He is married to Tonya, and they have three children, Jourdaine (28) Thomas (18) and Jack (16).*

### **OFFICER, WO & SNCO FAREWELLS**

If you have 20 or more years full-time and/or part-time service & have not been farewelled & still wish to be, please contact Major DT (Terry) Brennan for officers & WO1 DT (Paddy) McGarry for WO & SNCOs. Alternatively if you are aware of anyone who was over looked no matter how long ago and they still wish to be invited please pass on their contact details. It is never too late to attend the Regimental farewells.

## REGIMENTAL CONFERENCE

*Captain Jacob Beale*

*Divisional Artillery Adjutant, JFECC – DJFHQ*

**Artillery: Accurate, Responsive, Dependable,  
Joint**

The RAA Conference was held November 2017 at the School of Artillery. [Ed: In his opening remarks HOR stated his aim was to conduct a conference that produced meaningful outcomes, addressed issues and seized opportunities. He stressed the theme was deliberately not Joint Fires. HOR said money was tight and emphasised there were ‘no more people’ therefore gold plated solutions requiring more resources just would not happen. He observed that whilst ‘innovation’ was a hackneyed expression it was essential to include innovation in day to day activities including training.]

The Conference enabled various RAA organisations with vested interests in the pathway forward of the RAA to discuss, argue and reason many topics and analyse how the RAA will operate in the future. The four primary topics covered were:

- RAA Strategic Plan and RAA 2025 Vision
- Junior Leader Training and Doctrine
- At Risk ECNs
- The future of 20 STA and 16 ALR

These topics were facilitated by different COs and RSMs to come up with outcomes so the RAA can move forward with a unified direction.

During Topic 1 the discussion centred on how to market the RAA as an entity and what should be our identity as we move into 2025. The primary outcome was the agreement on the catch phrase being; *Accurate, Dependable, Responsive, Joint*.

Topic 2 analysed how to better enable Joint training within the RAA. If we are going to move towards being a ‘Combined Joint Synchroniser’ then we need to be better at enabling our people with an ability to understand and speak Joint, this means that we need to identify more individuals for Joint courses. Doctrine was also a large focus during the discussion with a lot of concern centring on the how unresponsive doctrine has been to changes in how we operate.

At risk ECNs were discussed during Topic 3. This centred on ECN 255 which has been critical for some time. Several options for remediation were put forward.

The future of 16 ALR and 20 STA were discussed. [Ed. HOR observed their roles had

become blurred.] An outcome was a proposal to change the names to 16th Regiment and 20th Regiment to provide unification in titles of all artillery regiments. The future of JTAC Troop was discussed including an option to move from under command 16 ALR to the SOARTY.

At the conclusion of the conference a number of awards, promotions were announced and presentations made including the 2017 winners of the JNCO and GNR of the Year.

## REGIMENTAL FAREWELLS & COMMITTEE MEETING

*Major DT (Terry) Brennan, Editor*

In conjunction with the conference the annual Regimental Committee meeting and Regimental Farewells were convened. The HOR observed the farewells were an opportunity to recognise the Gunners who have gone before us and the legacy they have left and to tell a ‘few stories’. The Regimental Master Gunner has a report on the WO & SNCO farewells in his contribution in this section. During the Regimental officers’ farewell dining in night over ‘309 years’ of combined dedicated and loyal service to the Royal Regiment from those officers’ being farewelled was celebrated. Those officers were MAJGEN’s Paul Symon, Gerard Fogarty; BRIG Don Roach; MAJs Marty Gowling, Stuart Seabrook and Colin Wardrop. The personal farewells were heartfelt with a mixture of reflection, wisdom, thoughts for the future with a degree of levity and acknowledgement of individual contributions.

At 2007 dinner MAJGEN Paul Symon had a spontaneous idea to hold ‘a roll call of current and former commanding officers’ at the end of the dinner. He ‘encouraged’ me to conduct it and from this a ‘new’ tradition was born. The ‘result’ this year were four each from 1, 4, 8/12, 16 and 20 Regiment’s; one each from 2/10 Regiment and the SOARTY; and what was agreed as one half from 9 Regiment (CO designate).

The Regimental Committee meeting is the annual opportunity for the key leaders including Head of Regiment, Colonel Commandants, Commanding Officers, Regimental Master Gunner and Regimental Sergeants Majors, to meet ‘face to face’ to discuss Regimental matters. The meeting agenda was very comprehensive including updating the National Memorial on Mt Pleasant; RAA Regimental Strategic Plan, clarification of key Regimental dates, Queens Banner replacement due its poor physical condition; First Fleet 6 pounder gun; and the forthcoming Battle of Coral 50th Anniversary commemorations.

# Professional Papers

## **AMMUNITION DEVELOPMENT, MANUFACTURING, SUPPLY AND PROCUREMENT or:**

### **How I learned to stop worrying and love the bomb procurement process.**

*By Captain Tony Mumford*

#### **INTRODUCTION**

In August this year the ADF commenced certification activities for the Future Artillery Ammunition project. It is the largest introduction into service of ammunition for a single platform in ADF history. Ultimately all military procurement occurs at the nexus of national and international politics, global manufacturing and military requirements and artillery ammunition is no different. Throughout the process we must keep in mind that the bomb is the weapon of artillery and modernising the delivery system without modernising the weapon may compromise the capability required by Army and prevent effective support to our manoeuvre units

This paper will describe the considerations of artillery ammunition procurement and supply in order to provide context for the current procurement activity. I will discuss the manufacturing process, lines of supply and the bureaucratic procurement process. The end state is to give the reader a more rounded understanding of not just the current activities, but the political and financial pressures that have influenced it.

The paper will only use open, UNCLASSIFIED sources of information. This will limit discussion of specific components of current projects and equipment.

#### **PRODUCTION**

Regardless of ownership of the manufacturing process there is commonality in the process of designing, manufacturing, certifying and integrating the ammunition in to a given system. The differences are in how the manufacturer maintains the capability through commercial means or government incentives, and will be discussed in a later section.

#### **DESIGN**

The design of artillery ammunition is more often a case of 'putting the cart before the horse'. That is the gun is usually in-service equipment and the round is designed to suit. Ideally, the ammunition would be designed to suit the tactical requirements and the delivery system designed around that.

The design of ammunition is a specialist skill that needs to be developed over time and is rarely transferrable to other industries making experts rare. The round has to meet its purpose, be safe to fire in a range of weapon systems, be cost effective to produce and meet the standards and regulations of the region or nations that the market that it has been designed for. Beyond calibre, small differences in the metal used or shape of the base of the round may make it unsafe. For example, ammunition designed for the M777 may be unsafe for use in the longer barrels of SPH or extended range towed

howitzers due to the increased pressures involved. Changes in propellant may create a more jarring pressure curve that over stresses the obturating bands or causes fractures resulting in in-flight separation.

## MANUFACTURING

Manufacturing ammunition requires a diverse supply chain. Figure 1 demonstrates a simple supply chain. At each factory or assembly plant specialist equipment and skills are required. In the mid 60s the US review board, the Besson Board, warned:

*“Munitions production is a high-risk venture for private industry owing to the lack of demand for munitions production in peace time and the uncertainties associated with the length of the war... The facilities and tooling peculiar to munitions manufacturing coupled with the quantity of equipment required to produce at the desired rates, do not lend themselves in total to alternative commercial use... Profit motivations of private industry does not argue for retention of this equipment in peacetime; hence, the production base tends to evaporate with the cessation of demand.” (Joint Munitions Command, 2010).*

This warning highlights that the plants themselves do not present a profitable business unless demand is high and consistent. Multi-national companies, such as Rhienmetall, have found a profitable model through diversification of product and a multi-national supply base. This creates political sensitivities for both the supplier and buyer but has proven to be not-insurmountable.

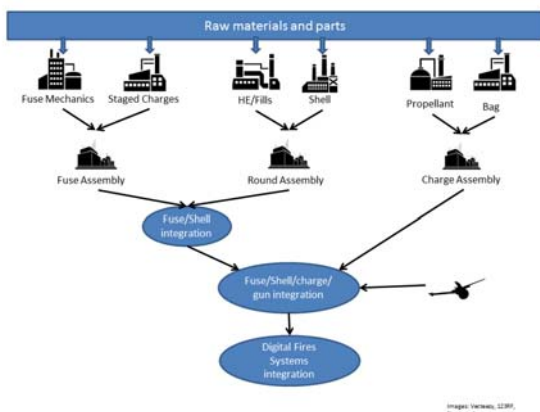


FIGURE 1 – Raw Materials & Parts

## INTEGRATION AND CERTIFICATION

Once the ammunition is produced, integration and certification is required for each shell/fuse/propellant combination, known as the All Up Round (AUR), for the chosen weapon system. This is completed to ensure that the AUR is safe to fire and that there is no unexpected wear on the gun. Unplanned overpressures and rapid changes in temperature may stress the gun and cause excessive or uneven wear, which in turn creates an erratic fall of shot.

With certification complete the AUR needs to be integrated into the digital fires system. Enough AURs for each combination are required to be fired to gather the volume and quality of data to ensure that the prediction model is complete. Efficiencies can be found through projectiles with verified ballistic similitude, that is rounds of different natures that have similar ballistic properties to allow one round of a specific nature fired to provide data across a range of other natures. Once the data is gathered it is processed into the fire control information (FCI) and the NATO Armaments Ballistic Kernel (NABK). The FCI is a database of ballistic models which a ballistic computer can draw upon. With integration all the components are updated to include the data and to index it correctly.

A simple analogy to describe the interactions between NABK and the ballistic computer is to think of the FCI as a library. Each book is the information about the ballistic performance of round in a particular gun. NABK acts as the librarian. Once the FCI is indexed in NABK a ballistic computer will ask NABK, the librarian, for the ballistic model for a round under certain conditions. NABK will find the right reference, turn to the right page and provide the ballistic trajectory of the round. The ballistic computer will then apply non-standard conditions and apply the resulting trajectory to the model to create the firing solution.

Integrating an AUR into the digital fires system involves providing the data for the AUR and having it entered into NABK. The appropriate reference is placed in NABK and the ballistics computers are updated to include the new round.

Overall, establishing a supply chain takes a significant investment in time and resources



with no guarantee that the arrangement will be profitable. Many nations maintain stockpiles of equipment and subsidise industries to maintain skillsets, called a ‘warm base’, to enable rapid mobilisation on the outbreak of a large scale war. The methods for acquiring ammunition will be the subject of the next section.

## SUPPLY

There is no easy solution to providing a supply system for artillery ammunition. Indigenous manufacture or assembly, procurement from the US, and procurement from commercial suppliers all have their benefits and flaws. Ultimately it is the decision of the Australian Government on which options are to be pursued. Note that an established supply chain, such as the US for Australia, remains ‘in the catalogue’ regardless of the current options pursued. Sustainment cycles review the cost and benefit of ammunition supply options based on the requirements of the day. Ultimately having more than one brand ‘in the catalogue’ provides flexibility to achieve supply certainty and efficiencies in cost.

## INDIGENOUS MANUFACTURING

An indigenous capability presents a politically attractive option due to the creation of defence industry and provision of ammunition specifically designed for the national need. On the other hand it is economically difficult due to the large set up costs and, in Australia’s case, low demand.

“An indigenous defence industry provides for force planning according to one’s own concepts, special requirements and time-table. It strengthens bargaining positions within Alliance debates. It helps avoid meekly accepting everything the US offers by way of doctrine or weapons innovation.”(Freedman 1978, p. 5) Removing reliance on US ammunition manufacturing plans provides certainty of supply and ensures the ammunition provided suits our needs. It also provides a relationship with the commercial entity chosen to operate within Australia which, if managed correctly, may foster native innovation that can be sold to other nations or companies.

The risk of delaying the establishment of an indigenous manufacturing capability is that regardless the potential threat of total destruction to the manufacturing base “it is doubtful that

new armaments production could make a significant contribution, given the time needed to produce individual items of sophisticated equipment and the high attrition rates of the modern battle field.” (Freedman, 1978, p. 3) That is, when possible an indigenous manufacturing capability should be stood up regardless of any, or the lack of, current conflicts in order to develop the ability to manufacture the required quantities of ammunition in the event of a war.

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*The low demand for ammunition may require Government subsidies as the number of 155mm rounds required each year may lack the economies of scale ...*

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The largest detractor of indigenous capability is the high cost of establishment. “National equipment would still be produced but would become even more expensive because of the necessity of incorporating standard components not designed specifically for that equipment” (Freedman, 1978, p. 4). Manufacturing and assembly plants are required to achieve a high level of quality control and maintain national standards for explosives manufacturing. Further, the specialist skillsets required for the operation of the facilities need to be contracted in or grown, then maintained for the duration of operations.

The low demand for ammunition may require Government subsidies as the number of 155mm rounds required each year may lack the economies of scale required for full time employment of both facilities and personnel. This is an issue that has been addressed by Thales at Mulwala propellant manufacturing plants by producing propellants for police and other commercial sales. This is not an option for artillery ammunition without securing sales to other nations. This is Government’s decision based on the cost/benefit analysis of manufacture to jobs, growth and certainty, but may be worth the expense to maintain the facility for strategic purposes.

Finally, the manufacture of any item in the supply chain can be completed by an indigenous supplier, but the commercial relationships to obtain the IP and integrate with the larger system must be secured. Even the assembly of foreign munitions in country will require certification and approval from the Original Equipment Manufacturer (OEM) which will be included in the price.



## US SUPPLY – FOREIGN MILITARY SALES

The US provides two methods of delivering arms and munitions to other nations; Foreign Military Sales (FMS) and Foreign Military Assistance (FMA). The latter is concerned with providing assistance to nations who do not have the means to procure modern US equipment in order to further US interests in the region. As this is not the case for Australia, I will therefore not discuss it further.

FMS is used by the US to further foreign policy and maintain demand for military equipment. One of the key tenants of FMS is that the American taxpayer will bear no cost. This means precise billing for all equipment and services with no room for negotiation, resulting in generally higher prices than found with commensurate services available on the commercial market. In the case of artillery ammunition, the demand from foreign nations that use US artillery systems helps to generate a higher level of readiness of the manufacturing base and allows the US to mobilise quicker than if the facilities were allowed to reduce tempo or allowed to close.

A major benefit of FMS is that there is a degree of alignment with US systems allowing operational cooperation. The degree of similarity of systems is dependent on the relationship between governments, with Australia falling into line with the majority of US fires systems.

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***FMS is used by the US to further foreign policy and maintain demand for military equipment. One of the key tenants of FMS is that the American taxpayer will bear no cost.***

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With US artillery ammunition the integration work has been completed at point of procurement. The US will integrate the ammunition with the digital fires system using US facilities and provide the digital component as part of routine upgrades. Often they will seek co-development funding from other nations such as Australia, allowing us to provide input into the requirements. Co-development will also provide visibility into the process and build our own expertise. Recently there has been discussion of using Australian facilities to assemble US mortar rounds. This will provide access to intellectual property which will aid in developing the knowledge required to improve

Australian Industry Capability and increase in the rate of effort of the existing munitions factories.

Relying on US ammunition has some downsides. Any transfer of material or information will require an assessment of the International Traffic of Arms Regulations (ITAR) which were established by the US to ensure security of their systems, which have an effect similar to industry protection measures enforced by other nations. Another issue is that there is no two-way street for FMS, we request and receive, decisions and contracts can be overturned with no legal avenue for reply.

The US has longer planning timelines for ammunition production than our Army has for usage planning. This results in Australia relying on a prediction of use and often having to procure ‘excess’ ammunition in order to meet minimum order quantities. As artillery ammunition demand fluctuates depending on the tempo of operations, the US may withdraw Australia’s allocation at any time to meet their operational requirements. This presents a strong case for maintaining two separate lines of supply, including one which is not dependant on the military needs of the providing nation.

## COMMERCIAL SUPPLY

Commercial artillery ammunition procurement is the more flexible of the three. The majority of the production risk is held by the manufacturer as they are required to seek out opportunities for sales to ensure their production capability is sustained. As the ammunition is not often developed in conjunction with all artillery system there is a degree of risk associated with its integration.

A nation procuring artillery ammunition that was designed by a third party is required to submit it to a level of scrutiny to establish that it is safe, fit for purpose and achieves stated effects. Although this is often not as extensive as an indigenously manufactured round as many of the tests will have been completed by the supplier and the data will be available for review. Further, the data from the certification activities must be of sufficient quality and quantity to meet the requirements for integration into the digital fires systems in use by a specific nation.

This does not mean that the nation is entirely alone in the process. Co-operation with other nations that use similar ammunition can find efficiencies and, on the political spectrum, improve military cooperation. On the other hand, the supplier is under no obligation to restrict sales to nations with favourable political relationships. This can place a government under scrutiny once it is established that their supplier is also selling arms to a potential threat.

***The final issue with commercial procurements revolves around intellectual property (IP) ...***

One of the larger benefits of commercial procurements is that industry competition drives innovation and price. The ammunition provided must remain at the forefront of technology and warfighting trends to remain competitive. It must also come at a price allowing it to be integrated into an artillery system at an equivalent price as our current FMS rounds. This is often achieved through the sale of an AUR package. The provision of an AUR package reduces the complexity and cost to the buyer, but requires the supplier to source all parts and complete AUR integration.

The final issue with commercial procurements revolves around intellectual property (IP) and ITAR. Any system requires the trading of/access to information to allow integration. With commercial suppliers the information may be sensitive to competition and suppliers may not be willing to share all the required information to enable total integration. This will increase the risk and cost to the buyer. Complexity is further added with US systems and the requirement for clearance of all ITAR information prior to transmission. This may include innocuous data or formats, but a breach of ITAR may result in, at its most severe, the US withdrawing the particular system from a nation. This can go as far as simple interactions between systems, such as connecting AFATDS to a weapon locating radar to see if it works. Prior engagement with the US is always required when working with US and commercial systems.

**PROCUREMENT**

Although there have been changes in the capability life cycle (CLC) recently, the process for procuring any military equipment has not changed drastically. Each of these steps will have differing degrees of complexity depending on the capability being delivered. Political

drivers are also a factor to be considered with each government having its philosophies, policies and priorities.

**CLC AND APPROVALS**

Once a strategic need is identified in the White Paper an operating concept is developed. From this user requirements can be established and through analysis technical requirements are then developed. Through engineering analysis technical requirements become technical specifications. These are promulgated to industry as part of a Request for Tender (RFT), which allows industry to benchmark their product and respond with facts. The RFT is analysed and a supplier or suppliers are subsequently. Technical specifications are again reviewed for currency and form the basis of a contract. When the contracted supplies are delivered the material is subjected to a series of tests and evaluation to ensure the technical specifications have been met. Integration and an operational test and evaluation process is conducted to ensure the equipment requires no further additions to meet the strategic need, before the capability is considered in-service.

The complexity of the process is dependent on the number of systems and subsystems involved in the capability and all the systems the capability interfaces with. Figure 2 is a simple context diagram for Future Artillery Ammunition, demonstrating how the subsystems interact and how the system as a whole interacts with the broader capability. Notable is that each overlap requires an assessment of the standards used for design, the interaction, and tolerances of materials and mechanical components, and IP and ITAR considerations.

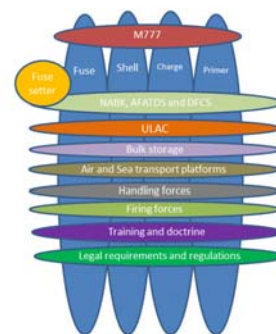


FIGURE 2 – L17-1C2 Context Diagram

Each interaction requires the appropriate review, planning, endorsement and approval at various levels. Significant liaison between stakeholders is required to ensure all acceptance criteria is met and due diligence has been paid to critical interactions. A lack of attention to detail by a reviewer can cause delays and increase costs as the issues are rectified, and at worst, place personal liability on an individual if a user is injured or killed by a fault that was not detected due to a lack of reasonable diligence.

## POLITICS

All acquisitions must pass through Head Land Capability (HLC) and then be reviewed by Capability Managers Gate Review (CMGR), a tri-service two star panel, prior to presentation and sign off by Chief of Army. Vice Chief of Defence Force will approve the proposal through the Investment Committee (IC) and it is approved by Government through either Two Minister Approval or Cabinet Submission for approval by National Security Committee of Cabinet (NSC).

HLC is required to balance all Land Capability needs against the strategic requirements defined in the white paper, policy and regulation, and the Integrated Investment Plan (IIP), which defines how much money Government is spending on any given capability. This becomes increasingly difficult when considering that funding is forecast many years before the final products are identified to meet the initial requirements. This may mean that the scope of the project is larger than expected, the cost has increased through market forces, exchange rates have fluctuated or origin of purchase has changed. This is not limited to the procurement of new acquisition. The cost model must also take into account the sustainment of the capability over several decades, and disposal at life of type.

HLC takes the proposal to CMGR where it is reviewed and debated by a panel of two stars with input from key advisory groups. It is at this stage that the other services voice their agreement or disagreement with the project and announce what they intend to advise their service chief prior to presentation to VCDF. Any major issues are raised and possible solutions discussed. The responses are noted and actions are taken to rectify any shortfalls prior to review by CA.

CA takes his proposal to VCDF as part of the IC. During IC, VCDF balances cost and funding against the ADF's strategic needs. Services may need to debate trade-offs and it is these debates which may prevent a proposal from advancing. Once cleared by VCDF a proposal for acquisition may either require to be accepted by the three ministers listed above, or presented to NSC for approval.

There are three Ministers involved two minister approval; Minister for Defence (MINDEF), Minister for Defence Industry (MINDI) and Minister for Finance (MINFIN). Each Minister has their own priorities and concerns. It is important to note that the Ministers are not usually Defence members and their context for the proposal may be limited to the brief itself and the earlier proposals that have been presented. We must present the proposal in honest, simple language as to aid their understanding and assist them in making the best decision for the taxpayer.

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***This may mean that the scope of the project is larger than expected, the cost has increased through market forces, exchange rates have fluctuated or origin of purchase has changed.***

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MINDEF's primary concern is achieving the strategic requirements of Defence. Their primary mechanism for guidance is the Defence White Paper and it is therefore important to ensure that any capability proposal can be linked solidly back to it.

MINDI's primary concern is ensuring that Australian defence industries are accommodated as much as reasonably possible. The portfolio is a fairly recent addition to Government with a primary focus on "jobs and growth" within the defence industry.

Balancing available funding against industry needs creates difficult decisions. The importance of creating and sustaining a defence industrial base is discussed extensively in Krause's "Arms and the State", where it is noted on several occasions that a nation's diplomatic and economic power is heavily dependent on [it's] ability to develop and manufacture military equipment (Krause, 1992). Freedman's study of the UK's military production capabilities at the height of the Cold War noted that "If the aim is simply to produce employment, then defence expenditure is less effective than other forms of public expenditure because it so capital-

intensive. However, the corollary of this is that defence expenditure does result in more industrial investment.” (Freedman, 1978, p. 6).

MINDI’s portfolio is not one of appeasing multinational arms dealers, but one of increasing the strength of Australia with a very long road to fruition. MINDI’s attention to all proposals is extensive and FAA has demonstrated no difference.

MINFIN is responsible for Australia’s finances. Once MINDEF and MINDI have agreed to a proposal they must request funding from MINFIN. MINFIN’s office will investigate, in detail, all elements of a proposal to ensure that the finances are accurate, affordable and achieve the stated outcomes.

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***Introducing a new suite of ammunition into service is a deceptively complex task.***

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If the proposal is large enough to warrant NSC scrutiny, the demands of other Ministers portfolios and their requirement to provide for their constituency comes into play. This provides complication through the need to ensure that all interested parties remain informed.

Future Artillery Ammunition is currently under review for Two Minister approval. The issues of the Mulwala and Benalla facilities has required significant discussion and briefings to ensure MINDI understands the restrictions placed by the budget and timeframe to ensure the best value for money decision for Australia.

## CONCLUSION

Introducing a new suite of ammunition into service is a deceptively complex task. Although the manufacturing issues may not directly affect the buyer the approval criteria for Government must take them into account, and thus must be understood by the Capability Manager. With “off the shelf” products the procurement process is simplified but in the case where the gun and round are not designed in synch there remains a significant body of work to ensure that the system remains safe and fit for purpose.

The suite of Future Artillery Ammunition is in the final stages of approval, and has just commenced the certification process. The planning has been extensive and although it is a large task, the risk is not considered to be high. We can look forward to not only having access

to cutting edge ammunition, but being able to leverage off a strong commercial relationship to remain at the forefront of 155mm capability while building Australia’s industrial capability.

## BIBLIOGRAPHY

Bailey, M. G. (2004). *Field Artillery and Firepower*. Annapolis, MD: Naval Institute Press.

*British artillery bombardment before the infantry attack on the Somme*. (2017). Retrieved Oct 18, 2017, from The Long, Long Trail: The British Army in the Great War of 1914-1918: <http://www.longlongtrail.co.uk/battles/battles-of-the-western-front-in-france-and-flanders/the-battles-of-the-somme-1916/british-artillery-bombardment-before-the-infantry-attack-on-the-somme/>

Freedman, L. (1978). *Arms Production in the United Kingdom: problems and prospects*. Hertford: The Royal Institute of International Affairs.

Joint Munitions Command. (2010). *History of the Ammunition Industrial Base*. JMC History Office. AMSJM-HI

Krause, K. (1992). *Arms and the State: patterns of military production and trade*. Cambridge: Press Syndicate.

*Museum of Technology*. (2007). Retrieved Oct 18, 2017, from Military: Shells, grenades, weapons and militaria.: <http://www.museumoftechnology.org.uk/objects/military.php>

Palumbo, J. T. (1998). *US Field Artillery After World War 1: Modernizing the Force While Downsizing*. Boca Raton: Florida Atlantic University.

Wikipedia. (2017). Shell (projectile). Retrieved Oct 19, 2017, from Wikipedia: [https://en.wikipedia.org/wiki/Shell\\_\(projectile\)](https://en.wikipedia.org/wiki/Shell_(projectile))

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# THE ADF WEAPON LOCATING RADAR CAPABILITY GAP

By Major Justin J McBurney, BC 110 AD Battery

*Counter-fire: fire intended to destroy or neutralize enemy weapons*

*United States Joint Publication 3-09 Joint Fires Support*

## BACKGROUND

For the past several years, the 16th Air Land Regiment (16 ALR) has attempted to fill known capability gaps within the Artillery trade. One of these gaps has been the lack of weapon locating radar (WLR) capability to support the counter-fires fight since the removal from service of the AN/TPQ 36 WLR. 16 ALR attempted to achieve this through Counter-Rocket Artillery Mortar (C-RAM) systems that were rapidly acquired to provide early warning to deployed forces of sporadic mortar and low-level rocket attacks on Op SLIPPER. These systems were suitable for low-intensity conflicts such as the missions conducted by Australian forces in Uruzgan from 2010; however, they are less than suitable in high-intensity conflicts against conventional forces.

## AIM

This paper intends to prompt discussion within the Royal Regiment of Australian Artillery regarding our capabilities perceived contribution to the counter-fires fight, noting the constraints of the equipment and primary role of 16 ALR. It will also provide potential solutions to support a locating capability.

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*One of these gaps has been the lack of weapon locating radar (WLR) capability to support the counter-fires fight since the removal from service of the AN/TPQ 36 WLR.*

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## SCOPE

To facilitate the aim of this paper, several areas need to be considered. Firstly, the threat posed by enemy systems will be examined. Secondly, the current radar systems will be discussed with particular focus on capabilities and limitations. The planned future of 16 ALR will briefly be considered before closing with thoughts regarding a weapon locating solution.

## THE THREAT

As the ADF gradually concludes its commitment in the fights against Daesh and the Taliban, the focus for training across all areas is returning to conventional warfare. Training enemies used by the ADF employ significant quantities and types of indirect fire systems, ranging from 60mm mortars through to MLRS such as the BM-21 Grad.



A BM-21 on parade in St Petersburg. Source: Wikimedia Commons.

The ranges and capabilities of these systems are vital in framing the counter-fires problem. The maximum range used in training for the 60mm M-57 mortar is 2540m and it is typically employed below Battalion level<sup>1</sup>. Given the range and TTPs of this threat, the utility of current in-service sensors is less than ideal due to the limited quantities and networking ability of our equipment, which are preferably controlled at the Divisional level. Adversary systems that are more appropriate uses of our assets would be those such as the more capable BM-21, which poses a significant threat to ground forces. Current systems employed in Russia range past 40km since recently being upgraded<sup>2</sup>, with a muzzle velocity of 690m/s<sup>3</sup>. This system is capable of expending up to 40 rockets within 20 seconds with the ability to immediately relocate, or to reload in location within eight to ten minutes.

Army and Joint exercises reinforce the BM-21 or similar as the focus of the counter-fires battle. These systems far outrange the capability of our sensors and surface-to-surface fires, limiting our ability to strike these targets when detected. We therefore rely on Joint effects provided from other services to support the targeting of surface-to-surface threats when identified.



AN/TPQ 48 LCMR on operations with 16 ALR. Source: <http://www.army.gov.au>

## CURRENT RADAR SYSTEMS

Current land force radars in the ADF inventory include both the AN/TPQ 49 Lightweight Counter Mortar Radar (LCMR) and the Giraffe – Agile Multi-Beam Radar (G-AMB). These radars were purchased in 2010 under rapid acquisition to provide a C-RAM effect for Australian forces in Uruzgan following the death of a soldier from indirect fires<sup>4</sup>. These radars were purchased in order to complete a specific task set, which 16 ALR successfully achieved for a number of years. Since approximately 2012, 16 ALR has attempted to fill the gap that was opened by the removal from service of the 20th Surveillance and Target Acquisition Regiment’s AN/TPQ 36 WLR. However, neither the LCMR nor the G-AMB are optimised to detect the broad threats that Army requests of them, resulting in marginal weapon locating support being provided to the force.



Giraffe – Agile Multi Beam with deployed antenna. Source: <http://defense-studies.blogspot.com.au>

*... the LCMRs ability to be a dedicated weapon locating solution outside of providing early warning during low-intensity conflict is questionable.*

The LCMR is a highly capable counter-mortar radar, with a planning range of approximately 10km<sup>5</sup>. In order to achieve the accuracy required to provide a locating effect, this range is reduced to 4-6.5km for mortar type threats. This is highly dependent on projectile characteristics such as Radar Cross Section (RCS) and round trajectories<sup>6</sup>. Experiences in Afghanistan with the slightly less capable AN/TPQ 48 variant of the LCMR demonstrated that the system is optimised against mortars but is far less capable against low-level rocket attacks. Given the extremely limited range and the marginal capacity to detect rockets, the LCMRs ability to be a dedicated weapon locating solution outside of providing early warning during low-intensity conflict is questionable.

During the acquisition of the LCMR the G-AMB was also purchased to achieve a a mix of sensors. The G-AMB was already in service with a number of nations around the globe, supporting the UKs Land Environment Air Picture<sup>7</sup> and as the Swedish Army’s air surveillance radar for the RBS23 Air Defence System<sup>8</sup>, demonstrating a range of 120km against certain air threats and of detecting RAM to a range of approximately 20km. This RAM detection ability is in line with most radars in the SAAB radar family, as indicated by Table 1.

	Giraffe 1X	Arthur	Giraffe AMB	Giraffe 4A	Giraffe 8A
Air surveillance			X	X	X
Ground based air defence	X		X	X	X
Weapon locating		X		X	
Sense and warn	X	X	X	X	

Table 1. SAAB radar family capabilities as indicated by the manufacturer.<sup>9</sup>

It is worth noting that the manufacturer explicitly neglects to include weapon locating as a function of the G-AMB. The manufacturer does specify however, that the radar is capable

of predicting the point of impact in RAM<sup>10</sup>, therefore achieving a sense and warn capability. This has been demonstrated on a number of occasions by 16 ALR, with continual efforts being made to also correctly predict the RAM point of origin.

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***G-AMB is highly capable of providing early warning of threats to deployed forces during low-intensity warfare, but it is not a WLR despite the best efforts to employ it as such.***

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To locate tracks, the G-AMB utilises a stack of radar beams, each 2.1° giving a total surveillance area elevation of 70°. While in RAM mode, this elevation is reduced to 20° to ensure adequate power output to identify threats with a smaller RCS. The G-AMB requires three detections of an object before classifying it and tracking outside of the initial 20° area. The small packets of observed airspace make it difficult for the radar to detect objects such as 155mm artillery shells moving at 320 m/s<sup>11 12</sup> with an indicative RCS of 0.001m sq<sup>13</sup> in three-dimensional space. Larger objects such as Su-30 (RCS 20m sq<sup>14</sup>), with a cruise speed approximately half that of a BM-21 rocket, or objects similar in size to a 155mm shell such as UAVs which travel at slower speeds, are simpler for the radar to classify and track due to the ability to achieve multiple detections within the observed airspace. Lessons learnt over the past several years have proven that the G-AMB is highly capable of providing early warning of threats to deployed forces during low-intensity warfare, but it is not a WLR despite the best efforts to employ it as such.

## **THE MODERNISATION OF IN-SERVICE RADARS**

In early 2017<sup>15</sup>, Government announced that it had made a decision regarding Land 19 Phase 7B, which seeks to replace or upgrade the current in-service air defence system. While this is transformational news for the Regiment, it is not the only significant change that is occurring. At the time of writing 16 ALR was participating in Exercise BOLD QUEST, a combined joint activity involving the Regiment deploying its systems with Identification Friend or Foe (IFF) Mode V for the first time. The upgrade to IFF Mode V will see the current in-service GBAD radar removed and the G-AMB providing a replacement cueing solution to RBS-70 weapon detachments. Shortly after Ex BOLD QUEST, the fleet of LCMRs held by 16 ALR will be

software upgraded to provide air surveillance and Counter - Unmanned Aerial System capability, which will provide shorter range GBAD early warning to cover areas screened to the G-AMB.

These upgrades significantly hinder the ability of the systems to continue to provide a pseudo-weapon locating capability. In order to provide low-level sense and warn capabilities to the force, GBAD coverage must be sacrificed. The siting considerations of the radars to achieve GBAD early warning and cueing differ from those when sense and warn tasks are required. While some coverage of both may be possible at times, both will be sacrificed to the point that neither will sufficiently provide the effect that commanders require. This is exacerbated when considering emissions control requirements. To increase survivability, GBAD radars do not radiate often and rely on being triggered by higher assets through systems such as Link 16. This cueing of other assets is not feasible in the WLR role outside of estimates of when an adversary will unmask his fires.

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***While this is transformational news for the Regiment, it is not the only significant change that is occurring.***

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Previous iterations of Ex HAMEL and TALISMAN SABRE have seen triggers for radiating in support of counter-fires to occur in anticipation of manoeuvre action, emissions which are regularly observed yet ignored by training enemies to allow friendly training outcomes to occur. Following an indirect fires event, the system is routinely requested to “conduct counter-fires” and identify a point of origin. In the event that munitions are still in the air and the G-AMB is at the maximum range of a BM-21 threat, using the launch speed of the rocket as a planning figure (690m/s), the time of flight from the launcher to maximum range of the rocket (58 secs), the time from maximum detection by the G-AMB to impact (29 secs), the likelihood of success is not in our favour. It is even less so when considering that the radar will likely need to redeploy to a location suitable to the task, GBAD coverage must be sacrificed and the speed at which adversary mobile artillery systems can relocate.

## **WHAT IS THE SOLUTION?**

With the equipment being procured under Land 19 Phase 7B, the sense and warn capability that has been built up for low-intensity conflicts will



be replaced with similar, yet more capable systems. They will not provide a WLR solution, but will be suitable for FOB based low-intensity fights, allowing 16 ALR to focus on its core role of air defence and force protection. This does not fill Army's need for a dedicated WLR that is capable against threats that we may face on operations against a near peer adversary. 1 Regt is currently undertaking trials with the LCMR to determine whether or not they can provide an integral solution to gun Regiments. This is a welcomed initiative in an attempt to solve a key missing component and to decentralise Army's counter-fires system.

Radars such as SAABs Artillery Hunting Radar (ARTHUR) are specifically designed for the role that the ADF requires. The Mod C variant is claimed to be capable of detecting rockets out to 60km over a sector of 120°, with a set up time approximately one tenth that of the LCMR<sup>16</sup> and an observable area of more than 2200km sq, far outperforming the LCMRs 360° coverage and 132km sq observable area. A solution such as the ARTHUR exemplar will ease pressure from within the Artillery community as it will enable key areas of the counter-fires fight to occur without the need to redirect training or assets from other specialised niche capabilities.



Danish ARTHUR Mobile Array.

Source: Værnsfælles Forsvarskommando

Until such a time that the ADF once again has a dedicated WLR to support counter-fires, we are restricted to non-radar solutions such as a UAS. While Army's UAV solution does not have the required combat radius required to detect the potential threats discussed here, the ADF is becoming a significantly more Joint organisation than ever before. As interoperability between the services continues to increase, the likelihood of RAAF assets supporting the detection of adversary surface-to-surface fires increases.

Aircraft such as the soon to be introduced MQ4-C, albeit a predominantly maritime asset, or the MQ9 are able to support the targeting cycle and enable counter-fires in ways that have not yet been achieved. Although UAS add another dimension to winning the counter-fires fight, it would be ignorant to believe that UAS are the only solution to support counter-fires until a radar solution is sourced.

## CONCLUSION

16 ALR received a number of systems purchased for a specific mission set. These systems were trialled over the past few years to for their ability to fill the clear WLR capability gap. Our lessons learnt over this time have identified that this is not the case due to technical limitations, the expected TTPs in a conventional battle and the atrophy of core air defence skills. The major acquisition of a system under Land 19 Phase 7B has forced a revaluation of the units role in support to counter-fires, leading to the analysis that a return to the core business of air defence is essential whilst maintaining sense and warn capability for low-intensity missions. 16 ALR provides a sensor in the battlespace that can give commanders significant situational awareness, but is not able to provide a fit for purpose or effective weapon locating system.

## BIBLIOGRAPHY

16 ALR. *Radar Handbook*. D15154157. 2017.

Biass, Eric H. "Mortar bombs: hail them or fry them?" *Armada International*. (Feb 2008), <https://www.highbeam.com/>

Australian Army. *Land Warfare Procedures – General LWP-G 7-5-1 Musorian Armed Forces – Organisations and Equipment*. 2008.

"CRAM sustainment funded." *Australian Defence Business Review*, accessed 18 Oct, 2017, <http://adbr.com.au/cram-sustainment-funded/>

"\$2 billion for NASAMS GBAD system." *Australian Defence Magazine*, 10 Apr, 2017, accessed 16 Oct, 2017, <http://www.australiandefence.com.au>

"UK MoD orders additional Giraffe AMB radar systems from Saab." *Army Technology*,



accessed 23 Oct, 2017, <http://www.army-technology.com/news/newsuk-mod-orders-additional-giraffe-amb-radar-systems-from-saab-4656264>

“Bamse Air Defence Missile System.” Army Technology, accessed 23 Oct, 2017, <http://www.army-technology.com/projects/bamse/>

Brehm, M. “Unacceptable Risk: Use of explosive weapons in populated areas through the lens of three cases before the ICTY.” *PAX* (2014): 22-23. <http://www.inew.org/>

Geneva International Centre for Humanitarian Demining (GICHD). “122 mm BM-21 Multi Barrel Rocket Launcher (MBRL)”. *Characterisation of Explosive Weapons*. (2016). <http://characterisationexplosiveweapons.org/> [Accessed 17 Oct 2017].

“AN/TPQ-49 Lightweight Counter Mortar Radar Global Security.” Global Security, accessed 30 Oct, 2017, <https://www.globalsecurity.org/military/systems/ground/an-tpq-49.htm>

United States Department of Defence. *Joint Publication 3-09 Joint Fire Support*. 2010.

“Arthur” SAAB Solutions, accessed 16 Oct, 2017, <http://saab.com/land/istar/weapon-locating-system/arthur>

“Giraffe AMB - Air Surveillance.” SAAB Solutions, accessed 16 Oct, 2017, <http://saab.com/air/sensor-systems/ground-based-air-defence/giraffe-amb/>

Shukla, Aji. “India, Russia close to PACT on next generation fighter” *Business Standard*, 21 Jan, 2013, accessed 30 Oct, 2017, <http://www.business-standard.com>

“LCMR Counterfire Radars.” SRC Incorporated, accessed 16 Oct, 2017, <https://www.srcinc.com/what-we-do/radar-and-sensors/lcmr-counterfire-radars.html>

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<sup>1</sup> LWP-G 7-5-1 – Musorian Organisation and Equipment

<sup>2</sup> Splav, as cited in GICHD, 2016

<sup>3</sup> Karpenko, as cited in GICHD, 2016

<sup>4</sup> “CRAM Sustainment Funded”, Australian Defence Business Review, last modified June 27, 2015, <http://www.adbr.com.au>

<sup>5</sup> “AN/TPQ-49 Lightweight Counter Mortar Radar (LCMR)”, Global Security, last modified 2017, <https://www.globalsecurity.org/>

<sup>6</sup> A mortar round has a typical RCS of 0.01m<sup>2</sup> and a high trajectory, while a 122mm rocket is more difficult to detect has a RCS of 0.009m<sup>2</sup> and a flatter trajectory. “Radar Handbook”, 16 ALR, last modified 02 Jun 17, D15154157

<sup>7</sup> “UK MoD orders additional Giraffe AMB radar systems from Saab”, Kable Intelligence Limited, last modified 2017, <http://www.army-technology.com/>

<sup>8</sup> Kable Intelligence Limited, “Bamse Air Defence Missile System, Sweden”

<sup>9</sup> “Giraffe AMB Air Surveillance and Ground Based Air Defence”, SAAB AB, last modified 2017, <http://www.saab.com>

<sup>10</sup> ibid

<sup>11</sup> Brehm, Maya. 2014. “Unacceptable Risk: Use of explosive weapons in populated areas through the lens of three cases before the ICTY”, *PAX*, 2014

<sup>12</sup> Biass, Eric H. 2008, “Mortar bombs: hail them or fry them?” *Armada International*, Feb 2008

<sup>13</sup> “Radar Handbook”, op cit

<sup>14</sup> Shukla, A. “India, Russia close to PACT on next generation fighter”. *Business Standard*, 21 Jan 13

<sup>15</sup> “\$2 billion for NASAMS GBAD system”, Australian Defence Magazine, 10 Apr 2017

<sup>16</sup> “Arthur Weapon Locating System”, SAAB AB, op cit



# THE NEXT STEP IN THE DIGITAL EVOLUTION

By Captain Daniel Waugh

The Royal Regiment of Australian Artillery (RAA) has been one of Army's leading organisations in the digitization journey with the LAND 17 project enabling our field regiments to conduct fully digital fires from sensor to shooter. It is therefore felicitous to assess the restrictions of our current in-service equipment, systems and processes and look at what the next digital evolution for the RAA will require. This article will attempt to outline some of the major friction points in the digital thread and avenues that exist for potential exploitation. Complex communication networks, diverse digital platforms and doctrinal dissonance are all realms that have potential for improvement. Development in these areas will ensure that the RAA maintains its lead in the digital sphere into the future.

Effective digital fires require a plethora of platforms, systems and processes operating in harmony to communicate target data quickly and effectively from sensor to shooter.<sup>1</sup> The RAA has procured numerous digital platforms to enable the digital thread. This is currently centered on the Advanced Field Artillery Tactical Data System (AFATDS), which acts as an aide to Command and Control (C2) as well as a gunnery computer. This system works in conjunction with several other platforms that aim to synchronise multiple pieces of equipment as well as communicate with Army's other digital systems in a secure manner.

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*Development in these areas will ensure that the RAA maintains its lead in the digital sphere into the future.*

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The recent events in the Ukraine illustrated that the transfer of insecure information can be catastrophic for a military. In one example, open-source apps on android phones made it possible for Russian separatist forces to locate, target and prosecute Ukrainian Army Artillery units, causing huge casualties to both personal and equipment.<sup>2</sup> Although the RAA possess the ability to have a secure and fully digital call for fire from sensor to shooter, this system is currently disadvantaged through a series of shortcomings relating to the use of multiple systems, duplication of effort and

ease of use. These issues often lead Joint Fires Team (JFT) observers to prefer voice procedures over digital means.<sup>3</sup>

## SYSTEMS WITHIN SYSTEMS

The Royal Australian Artillery utilizes AFATDS to de-conflict and coordinate fires; assign fire units; and, compute firing solutions. AFATDS transmits data via the Enhanced Position Location Reporting System (EPLARS) radio between C2 nodes - at the Joint Fires and Effects Coordination Centre (JFECC) - as well as to the gunnery Command Post for the calculation of firing data. At present, AFATDS is only able to transmit limited information (in the form of fire support coordination measures and basic messaging) to the Army's main C2 system, Battle Management System (BMS) Torch. Both AFATDS and BMS, however, use the EPLARS network to transmit data. This can often result in slow transmission times for digital fires with EPLARS having to manage two systems simultaneously.

JFT observers use the Digital Terminal Control System (DTCS) to input target data either manually or electronically. It forms the beginning of the digital thread and acts as a central node for a variety of in-service sensors, being:

- OVER5i (video capture device from ISR assets)
- Vector 21 (Laser range finder)
- TYR (Laser target designator)
- SOPHIE (Thermal Image Camera)
- DAGR (Defence Advanced Military GPS Receiver), and
- Harris 152 and 117/G radios.<sup>4</sup>

DTCS primarily uses the Harris 117/G to transmit its digital target data to any AFATDS computer within range, which then relays the information throughout the network. This entire framework is shadowed by traditional voice procedures maintained on regimental fires, tactical air control and manoeuvre networks, which are all sustained by separate radios.

Needless to say, the communication network outlined above is complicated. Each time digital data is transmitted between platforms, or over a different system, it needs to be translated and retransmitted. Both AFATDS and DTCS as stand-alone systems are able to integrate multiple capabilities onto a single platform. However, their ability to work together and with other ADF systems is often impeded by numerous digital nuances and exceptions to doctrinal processes. It is within the finer details that the problem moves from being complicated to complex.

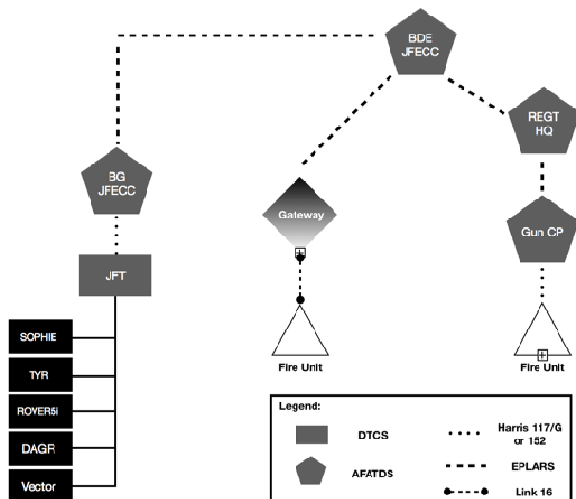


Diagram explaining the complex nature of the RAA's digital thread. This entire system is shadowed by a voice procedures on multiple networks

## COMMUNICATIONS

Maintaining any of these types of digital networks can be demanding for even the best trained units. These challenges stem from difficulties in network establishment, slow data rates and large reductions in range (when sending digital data compared to voice transmissions). Frequency hopping and encryption can compound the problem as it further reduces range in the Very High Frequency (VHF) band.

The Royal Australian Artillery's long-standing relationship with VHF processes and equipment has inculcated an unhealthy reliance onto a set number of frequencies that are not necessarily suitable for digital fires. VHF, while excellent for voice transmissions, is limited in its ability to pass large amounts of data over worthwhile distances on digital networks. This currently restricts our sensors to being in relatively close proximity to mounted nodes so that they can relay transmissions and extend the digital thread to fire units.

Areas for exploitation exist in the High Frequency (HF) band and satellite communications (SATCOM). Whilst HF bands are difficult to detect and can transmit over far greater distances than VHF, they are not ideal for dismounted elements who are constantly on the move. SATCOM, while also being able to achieve beyond the horizon capabilities, is suitable for moving elements, however, its transmissions create large electromagnetic signatures that can be easily detected. Additionally, emerging technologies suggest that these electromagnetic signatures will likely be an increased vulnerability in the near future. SATCOM has further limitations with the number of frequencies available for use by the Army, restricting the number of networks and available bandwidth for these means.

In either case, using HF or SATCOM bands would be preferable to VHF as they are not only more suitable for digital transmissions but also offer Army a redundancy to its main C2 platform, BMS-Torch. With the increasing likelihood that the Electro Magnetic Spectrum will be contested in future conflicts, merely having alternate frequencies for EPLARS or VHF radios will not offer enough flexibility for Army. Having JFECCs operate AFATDS on a different band and as well as through an alternate bearer would provide a mirrored system that provides greater redundancy for headquarter elements. Further exploration of alternate means of communicating data should be investigated in an attempt to decrease our reliance on VHF as well as extend ranges between sensors, relay nodes and fire units.

## TACTICAL DATA LINKS.

Tactical data links are an overarching network that provides the ability for different users and platforms to share a common tactical understanding.<sup>5</sup> These networks allow information to be passed between sensors and C2 systems increasing situational awareness and ultimately the ability to provide a real time effect on the ground.<sup>6</sup> Multiple data formats are currently used between the ADF's digitally capable nodes. This has resulted in data having to be translated from one system to the next.<sup>7</sup> At present, our C2 nodes at the Battle Group (BG) and Brigade (BDE) JFECC act as the gateway for fusing multiple data sources between systems. This is far from ideal and results in a reliance on strong communication links to these nodes.

The *Link* series and Variable Message Format (VMF) are two of the most prolific Tactical Data Links used by Western Militaries.<sup>8</sup> The Australian Army uses VMF as its primary Tactical Data Link to facilitate communication over its digital network. Because many of the ADF's Air and Maritime platforms use *Link 16* as their primary Tactical Data Link, the Royal Australia Artillery C2 systems - i.e. AFATDS and DTCS - rely on gateways to transfer information from VMF to Link 16. There are limitations in the use of gateways as information passage is often restricted in its speed and type of data that can be sent. There are also issues regarding the reliance on a stable communication networks that will allow information to flow back and forth through gateways as quick as voice procedures. This becomes most evident in situations where observers are reacting to the enemy rather than where they are conducting deliberate actions.

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*The Royal Australian Artillery's long-standing relationship with VHF processes and equipment has inculcated an unhealthy reliance onto a set number of frequencies that are not necessarily suitable for digital fires.*

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Broad use of Tactical Data Links are a relatively new way of communicating information between the ADF's systems and platforms. The lack of experience within the Army as a whole has created a culture of caution with these systems.<sup>9</sup> This hesitancy has evolved to having our digital procedures being shadowed by analogue processes, resulting in slow transmissions and preventing the digital system to reaching its full capability.<sup>10</sup> Confidence in fully digital processes as well as standardisation across the ADF to a common Tactical Data Link System will eliminate our reliance on gateways and increase overall efficiency in the digital thread.

## INTUITIVE SOFTWARE

The fires community has always been at the mercy of communications, which typically work best in static positions. This is contrary to tactical situations that often require sensors, shooters and C2 assets to constantly move. Minimal "click-to-effect" or "click-to-kill" software is a must for all elements of the digital thread. It is easy to for an individual to be quickly overcome with the plethora of information from a massed digitised system. Having a complicated user interface that is reliant on time consuming processes limits the

situational awareness of the observer and increases the likelihood of error.

Shortfalls in equipment integration, capability and ease-of-use for the end user has contributed to negative experiences in the RAA with regards to our digital capability. Procuring future interfaces with an emphasis on simple and intuitive usability will increase efficiency and overall reliability within the digital thread.

## DOCTRINAL DISSONANCE WITH THE DIGITAL THREAD

One of the conceptual challenges faced by the Royal Australian Artillery in the adoption of the digital thread was the use of a system that treats the allocation of fires in a different manner to our doctrine. AFATDS, being a US-based system, is designed around a process where fires are *requested* and *allocated* as opposed to our British-based doctrine where fires are *ordered*. This conceptual variance ultimately polarises processes between the JFT observer and the calculation of target data into a firing solution by AFATDS. The result is that observers may be offered a different method of engagement than what they intended. This fundamental difference has proven to be the result on many hours of delays. A decision point has now been reached as to which path the Royal Australian Artillery will take with regards to the manner in which fires are provided for our manoeuvre units.

## CONCLUSION

Our current digital platforms work well as sub-systems in isolation, however, their performance as part of a larger process – that is, the support of manoeuvre elements – is often sub-optimal.<sup>11</sup> Standardisation in doctrinal concepts and a focus on simplistic interfaces for future equipment will further increase confidence by the end-user. Our digital thread needs to be durable in both its manner of transmitting data from sensor to shooter, but also against itself being a target. The exploration of alternate frequency bands and means of communication offers opportunities that the RAA can exploit.

With contemporary conflicts placing an increasing demand for precision fires and a greater necessity for integration with the other services, the RAA will likely require a more flexible, coherent and resilient digital network in the near future.



Whilst this article has outlined several areas for improvement in the Royal Australian Artillery's digital thread, it has not necessarily offered a firm guide for the way forward. Indeed, the complex nature of digital systems and processes is such that simple solutions are quite unlikely. Nevertheless, identifying the limitations in our current platforms, systems and processes is the first step towards the next evolution.

<sup>1</sup> MAJ Mathew Neyland, 'Improving communications between digital fire systems', *Redleg*, Vol 57, pp. 7 - 11

<sup>2</sup> Crowd Strike, 'Use of Fancy Bear Android malware in tracking of Ukrainian field artillery units', March, 2017, <https://www.crowdstrike.com/wp-content/brochures/FancyBearTracksUkrainianArtillery.pdf>

<sup>3</sup> MAJ Neyland, 'Improving communications between digital fire systems', *Redleg*, pp. 7 - 11

<sup>4</sup> Northrop Grumman, 'Understanding Voice and Data Link Networking: Northrop Grumman's Guide to Secure Tactical Data Links', December 2014, [accessed 20 August 2017] [https://www.northropgrumman.com/capabilities/DataLinkProcessingAndManagement/Documents/Understanding\\_Voice+Data\\_Link\\_Networking.pdf](https://www.northropgrumman.com/capabilities/DataLinkProcessingAndManagement/Documents/Understanding_Voice+Data_Link_Networking.pdf) An example of this may be seen in the current 'VMF DACAS Threats' as Rockwell Collins, FIREStorm DTCS User manual, 2013, page 211, paragraph 9.22.

<sup>5</sup> Northrop Grumman, 'Understanding Voice and Data Link Networking: Northrop Grumman's Guide to Secure Tactical Data Links', December 2014

<sup>6</sup> Rockwell Collins, FIREStorm DTCS User manual, 2013, page 52 - 4

<sup>7</sup> Rockwell Collins, *Enhanced Decision Making for the Digital JTAC*, 2016 [accessed 01 September 2017] <http://www.williamsfoundation.org.au/resources/Documents/WF0316Gibbs.pdf>

<sup>8</sup> [http://www.northropgrumman.com/Capabilities/DataLinkProcessingAndManagement/Documents/Understanding\\_Voice+Data\\_Link\\_Networking.pdf](http://www.northropgrumman.com/Capabilities/DataLinkProcessingAndManagement/Documents/Understanding_Voice+Data_Link_Networking.pdf)

<sup>9</sup> Rockwell Collins, FIREStorm DTCS User manual, 2013, page 55

<sup>10</sup> An example of this may be seen in the current 'VMF DACAS Threats' as Rockwell Collins, FIREStorm DTCS User manual, 2013, page 211, paragraph 9.22.

<sup>11</sup> Michael Clifford, Michael Ryan and Zoe Hawkins, 'Special Report: Mission command and C3 modernisation in the Australian Army: Digitisation a critical enabler', *Australian Strategic Policy Institute*, December 2015 [accessed 25 August 2017] <https://www.unsw.adfa.edu.au/capability-systems-centre/sites/csc/files/pdf/Report-Mission-Command-and-C3-Modernisation-in-the-Australian-Army.pdf>

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# PUTTING THE ESSENTIAL BACK INTO EFSTs

By Major Robert O'Donnell, Battery Commander, 104th Battery  
1st Regiment, Royal Australian Artillery

Essential Fire Support Task (EFST) is a term that is in widespread (mis)use throughout the Army. Generally introduced to officers during their first appointment training and soldiers during promotion courses, EFSTs quickly find themselves incorporated into every COA of every TEWT as a means of demonstrating consideration of the OS BOS and combined arms synchronisation. Even amongst Gunners, EFST use and development tends to be misunderstood and—combined with a lack of doctrinal methodology—leads to the creation of EFSTs which are not actually *essential*, or have undeveloped quantifiable effects which subsequently impact resource planning and asset apportionment in execution. In the worst case, this results in a failure to achieve BOS orchestration, leading to a failure to achieve concentration of force at the decisive moment, and subsequently casualties and mission failure.

An EFST is defined as a tool that “describes an effect that the JFE BOS is to have upon the enemy ... [and that] ... when synchronised with the manoeuvre plan, a failure to achieve an EFST may require the commander to alter the tactical or operational plan”<sup>1</sup>. Joint doctrine publications define EFSTs in an almost verbatim fashion<sup>2,3</sup> as does the (presumably source) United States doctrine<sup>4</sup>.

In and of itself, the doctrinal definitions are not bad. The issue however, is the tendency to forget the second part of the definition—that part that makes them *essential*. Whilst this likely results from incorrect widespread misuse of the term, it is enabled by the use of the word “may” within the definition, which could be interpreted in terms of ‘may or may not’. I argue that a more correct reading is as follows:

*... when synchronised with the manoeuvre plan, a failure to achieve an EFST **will result in a decision point**, which may require the commander to alter the tactical or operational plan.*

The construct of EFSTs (being task, purpose, method and effect, or TPME<sup>5</sup>) are adequately described in doctrine (although it should be noted

that there is a discrepancy between Corps and joint doctrine, the latter of which labels the “T” as “target”<sup>6</sup>). What is lacking however, is a quantifiable methodology for determining why the EFST is essential to the manoeuvre plan. Artillery planners will often generate an EFST for each Decisive Event, seemingly because there is an expectation to do so, despite the fact that the task and purpose were not provided by the manoeuvre commander, nor is the EFST actually essential. Too many times I have seen generic tasks such as ‘attrit the enemy’ coupled with purposes such as to allow the unit to do something which is basically just achieving their mission. This could be alleviated by the adoption of TPRME—the R standing for *reason*. The inclusion of a distinct manoeuvre-provided reason within EFSTs would provide three clear benefits.

Firstly, it would enable the artillery planner to understand why the EFST is essential, and assist in determining what effect is actually required. In the example given previously, there is a chance that the manoeuvre commander legitimately needs joint fires to attrit the enemy. Too often however, the analysis ends here. Inclusion of a reason would force both manoeuvre and fires staff to ask ‘why’. In this case, the reason may be because the manoeuvre force does not have a sufficient force ratio, which then enables an analytical determination of the effect required, and subsequently the assets that should be requested. For example, a battle group commander intends to use their tank squadron of 12 tanks to attack a force of six tanks, but has determined that a minimum force ratio of 3:1 is required. The commander provides the BC with not just the task and purpose, but also the reason—in other words, why the plan cannot be conducted without joint fires. Now knowing exactly why he needs to incorporate fires, the BC can use this to determine the minimum attrition effect that fires must achieve, and can subsequently ensure that the appropriate strike asset and munition type and quantity are requested to achieve this.

Secondly, it would force artillery planners at all levels to justify why the EFST is essential. This would increase the chances of asset

apportionment to that callsign, as well as provide a higher degree of orchestration and synchronisation across the Bde's multiple BOS (particularly when attempting to pose multiple dilemmas on the enemy). This is a crucial point. Within a Reinforced Combat Brigade we ask three medium batteries, a light battery, two mortar platoons, an ARH squadron (noting rate of effort and weather limitations) and any opportune RAAF/RAN support to perform a lot of concurrent tasks: dynamic targeting of HPTs; close support to three or more battle groups; counter-battery fires; and conduct of other BOS functions (for example, incorporation into IDI, such as control of gun movements to support deception)—as well as maintain their own survivability. It is an accepted fact that there is never enough fire support to meet all requirements; therefore, if we state that certain tasks are essential, it follows that assets **must** be apportioned to them at the expense of other tasks. The inclusion of a reason would enable subordinate artillery planners to provide context to their higher JFECC, thus increasing the likelihood that the criticality of the task is understood, and adding more weight to the 'bid' for strike assets. It would also prevent scarce fires assets being wasted on non-essential tasks, at the expense of something more important.

Thirdly, inclusion of a reason would provide context for manoeuvre staff. Despite how we often do business, manoeuvre commanders and staff are *essential* components of fires planning and execution: they control and coordinate JFECCs and JFTs; are responsible for ground clearance of fires within their boundaries; and their plans are the *raison d'être* for the fires in the first instance. An arbitrary task and purpose may make sense to them, but does not necessarily help them visualise and synchronise fires with the manoeuvre plan—it simply tells them what is happening, and thus reinforces “stove piping” and alienation (noted phenomena borne of both culture and technology)<sup>7</sup>. Not only would inclusion of a reason for a particular EFST provide them with context, but would assist with own force and enemy analysis and COA development, as well as enable them to more effectively posture for execution of the EFST.

Regardless of whether one supports the inclusion of a reason or not, it is hard to argue with the need for more accurate effects requirements. In the context of EFSTs, an effect is a means of:

*[q]uantifying the successful accomplishment of the task - provides a guide to determine when we are done with the task. One measure of effects is to determine if the purpose was met. If multiple delivery assets are involved, it helps clarify what each must accomplish. Effects determination also provide the basis for the assess function of targeting and contribute to the decision of whether to re-attack the target.*<sup>8</sup>

Whilst the nature of an effect is well described in doctrine, the means of determining it is not. As stated previously, effects are often simply 'made up': for example, a particular number of enemy vehicles to be destroyed. Another often-seen arbitrary measurement is the retention of a set percentage of combat effectiveness, generally listed as a measure of effectiveness after attrition strikes (as opposed to screening actions). The danger of effects such as these is that they either do not meaningfully assist the manoeuvre force beyond raw attrition (which could arguably be achieved more effectively elsewhere), or establish measures of effectiveness that are outside the remit of OS or do not actually mean anything. Essentially, what is lacking is a methodology for determining useful, quantifiable effects.

Whilst a manoeuvre-provided reason would greatly assist with the identification of the desired effect, analysis is still required to confirm the *required* effect. What the manoeuvre commander initially thinks they need may be different to what they actually need—and this is really no different to the normal refinement that occurs throughout the planning process. I propose the following process for determining useful effects, which will subsequently drive the method.

### **1) Attritive versus non-attritive**

The first thing the artillery planner should consider is whether the effect is one of enemy degradation (lethal) versus manoeuvre support (non-lethal). Whilst lethal/non-lethal could be used instead of attritive/non-attritive, the former could cause confusion when lethal munitions are used for a non-lethal purpose (such as covering fire). Non-attritive effects are those effects whose end state is not specifically attrition of the enemy—although attrition may result from their execution.

### **2) Quantify the effect**

The second step involves determination of the quantifiable element of the effect. Correct analysis

at this step will naturally lead to development of the method. The result should not be ‘plucked’ but rather based on sound analysis, which will allow the planner to request the most appropriate asset, as well as facilitate the planning of manoeuvre commanders and assist them by depicting risk in real-world terms. Identification of the effect will directly influence the task and purpose components of the EFST.

Attritive effects should be based on the following:

- *achievement of a specific force ratio*: for example, destruction of two tanks to enable the tank squadron to achieve a 3:1 ratio prior to its attack.
- *targeting of a specific HPT*: for example, neutralisation of the SA6 to provide freedom of operation for friendly aircraft.

Non-attritive effects should be based on the following:

- *covering*: for example, suppression of enemy platoon position to enable friendly company to close within 250m of the objective with not less than a 2.5:1 force ratio (no more than 20 casualties).
- *screening*: for example, screening of friendly movement between the bridge and the FUP for an expected duration of 10 minutes to prevent engagement by heat-seeking anti-armour weapons, enabling the friendly troop to commence the attack with 100% combat effectiveness (note this example refines the threat, which will impact the munition used).
- *blinding*: for example, blinding the enemy observation post for an expected duration of 10 minutes to prevent coordination of OS during the advance, allowing the squadron to maintain axis and formation in vicinity of the 240 feature.

### 3) Write the effect statement

The final step should be a concise statement, outlining what fires needs to achieve. Where possible and applicable, this should be depicted in two parts: an enemy (primary) effect and a friendly (secondary) effect. For example, SA6 neutralised and ARH able to support attack.

The final part of this discussion lies with the employment of the concept of EFSTs within the broader targeting plan. “Conceptually, a fire plan is the logical sequence of executing EFSTs to

support a concept of operation”<sup>9</sup> and thus EFSTs should be engaged as a fire plan to ensure that strike assets are allocated, confirmed and ready, with any residual effort (excluding reserve) applied to non-essential tasks or targets of opportunity. Regardless of confirmation via fire plan however, assets are never truly ‘locked in’: the higher headquarters always retains the right to reassign their assets as they see fit—balancing support to manoeuvre versus targeting of HPTs. It stands to reason therefore, that EFSTs must be included in a hierarchy of priority in order to provide surety for subordinate elements, as well as to prevent the non-achievement of essential tasks from unhinging multiple levels of manoeuvre plans. It does not appear that this issue is covered by any specific Australian or US doctrine; if anything, US doctrine confuses the issue by stating that the task component of an EFST must be directed at an HPT<sup>10</sup>. The proposed methodology discussed earlier however, clearly shows that both attritive and non-attritive effects can be directed at non-HPT entities. Logically therefore, EFSTs must be seen as separate to HPT tasks, which themselves are distinct from other (non-essential) fire support tasks.

In lieu of doctrinal guidance on the matter, I recommend the following excerpt from the US Virtual Combat Training Center, for a proposed ranking system for engagement prioritisation:

*Essential Fire Support Tasks (EFSTs) are the tasks that must be accomplished, or the task force course of action will have to be altered during the fight (almost always disastrous). When one or more of these tasks is triggered, they supersede all other fires. No matter what targets are being shoot [sic], they are canceled when it is time to fire an EFST.*

*The high payoff target list (HPTL) is next in priority. If it is not time to fire an EFST, the next target in priority is an HPT. These are targets that you have identified which, if destroyed, will make it easier for your task force to accomplish its objective. They may or may not be HVTs (high value targets) to the enemy, things that, if destroyed, will cause him to alter his course of action.*

*Finally, if there are no EFSTs to be fired, and no HPTs have been spotted, fires go to the unit with priority of fire. That is, the unit with priority of fire can call targets of opportunity that he has*



identified and wants to engage. These fires will immediately stop, however, if an HPT is identified or an EFST is triggered.<sup>11</sup>

The take-away from this is that not only do our EFSTs actually have to be *essential*, but they must receive command endorsement, just as the HPTL does. This is not a bad thing: a succinct EFST list would allow the commander to ascertain the strength or fragility of their plan at multiple levels, enabling more informed risk decisions. It also provides surety to subordinate commanders: once endorsed, an EFST **must** be resourced and conducted—and if an EFST is not endorsed, the commander has actively acknowledged an issue with a part of the plan, and the originator is made unequivocally aware that their COA will require modification.

In conclusion, whilst the concept of EFSTs remains valid, their utility is being limited by poor development and incorrect nesting within the targeting plan. Both of these areas can be addressed with methodical approaches and minor modifications to doctrine. By concentrating on the *reason* for a fire support task, artillery planners can draw out the required effect, determine the most suitable task and purpose, and subsequently identify the most suitable strike asset. Beyond the EFST itself, an agreement on a defined hierarchy of priorities would ensure that manoeuvre units are not denied essential fires, and can have confidence that the OS BOS will provide fires that are on time, on target, and do what needs to be done.

### Author

MAJOR ROBERT O'DONNELL GRADUATED FROM THE ROYAL MILITARY COLLEGE - DUNTRON IN 2007 AND WAS ALLOCATED TO THE ROYAL REGIMENT OF AUSTRALIAN ARTILLERY. HE HAS BEEN POSTED TO THE 4TH FIELD REGIMENT, 1ST RECRUIT TRAINING BATTALION, AUSTRALIA'S FEDERATION GUARD, 4TH REGIMENT RAA, THE SCHOOL OF ARTILLERY AND THE 1ST REGIMENT RAA. MAJOR O'DONNELL DEPLOYED ON OPERATION SLIPPER IN 2012–2013 WITH THE UNITED STATES ARMY'S 3RD INFANTRY DIVISION HEADQUARTERS. HE HOLDS A BACHELOR OF SOCIAL SCIENCE FROM CHARLES STURT UNIVERSITY AND A MASTER OF BUSINESS FROM THE UNIVERSITY OF NEW SOUTH WALES. MAJOR O'DONNELL HAS AUTHORED A PREVIOUS ARTICLE FOR THE RAA LIAISON LETTER, TITLED *SHIFT FROM A KNOWN POINT: THE ARGUMENT FOR EVENT-BASED FIRE PLANNING*.

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<sup>1</sup> Land Warfare Procedures – Combat Arms (Offensive Support) 5-3-3 Joint Fires and Effects Planning, Execution and Targeting (Land) dated 28 Oct 10, p. 4-10. Retrieved 28 Jul 17 from Doctrine Online.

<sup>2</sup> Australian Defence Doctrine Publication 3.1 Joint Fire Support dated 02 Nov 09, p. 3-6. Retrieved 28 Jul 17 from Joint Doctrine Library.

<sup>3</sup> Australian Defence Force Publication 3.1.1 Joint Fire Support Procedures (Amendment List 1) dated 02 Nov 09, p. 1-8. Retrieved 28 Jul 17 from Joint Doctrine Library.

<sup>4</sup> Field Manual 3-09.31 Tactics, Techniques and Procedures For Fire Support for the Combined Arms Commander dated 01 Oct 02. Retrieved 28 Jul 17 from [http://www.marines.mil/Portals/59/Publications/MCRP%203-](http://www.marines.mil/Portals/59/Publications/MCRP%203-16C%20%20TTP%20for%20Fire%20Support%20for%20the%20Combined%20Arms%20Commander.pdf)

[16C%20%20TTP%20for%20Fire%20Support%20for%20the%20Combined%20Arms%20Commander.pdf](http://www.marines.mil/Portals/59/Publications/MCRP%203-16C%20%20TTP%20for%20Fire%20Support%20for%20the%20Combined%20Arms%20Commander.pdf)

<sup>5</sup> Land Warfare Procedures – Combat Arms (Offensive Support) 5-3-3 Joint Fires and Effects Planning, Execution and Targeting (Land) dated 28 Oct 10, p. 4-9. Retrieved 31 Jul 17 from Doctrine Online.

<sup>6</sup> Australian Defence Doctrine Publication 3.1 Joint Fire Support dated 02 Nov 09, p. 3-6. Retrieved 31 Jul 17 from Joint Doctrine Library.

<sup>7</sup> LTC Johnson, RC (2001). *Fighting with fires: Decentralize control to increase responsiveness*, p. 30. School of Advanced Military Studies, United States Army Command and General Staff College, Fort Leavenworth. Retrieved 31 Jul 17 from <http://www.dtic.mil/dtic/tr/fulltext/u2/a403795.pdf>.

<sup>8</sup> Field Manual 3-09.31 Tactics, Techniques and Procedures For Fire Support for the Combined Arms Commander dated 01 Oct 02. Retrieved 31 Jul 17 from [http://www.marines.mil/Portals/59/Publications/MCRP%203-](http://www.marines.mil/Portals/59/Publications/MCRP%203-16C%20%20TTP%20for%20Fire%20Support%20for%20the%20Combined%20Arms%20Commander.pdf)

[16C%20%20TTP%20for%20Fire%20Support%20for%20the%20Combined%20Arms%20Commander.pdf](http://www.marines.mil/Portals/59/Publications/MCRP%203-16C%20%20TTP%20for%20Fire%20Support%20for%20the%20Combined%20Arms%20Commander.pdf)

<sup>9</sup> Field Manual 3-09.31 Tactics, Techniques and Procedures For Fire Support for the Combined Arms Commander dated 01 Oct 02. Retrieved 31 Jul 17 from [http://www.marines.mil/Portals/59/Publications/MCRP%203-](http://www.marines.mil/Portals/59/Publications/MCRP%203-16C%20%20TTP%20for%20Fire%20Support%20for%20the%20Combined%20Arms%20Commander.pdf)

[16C%20%20TTP%20for%20Fire%20Support%20for%20the%20Combined%20Arms%20Commander.pdf](http://www.marines.mil/Portals/59/Publications/MCRP%203-16C%20%20TTP%20for%20Fire%20Support%20for%20the%20Combined%20Arms%20Commander.pdf).

<sup>10</sup> Ibid.

<sup>11</sup> Virtual Combat Training Center (2009). 'Synchronizing Fire and Maneuver; Colorado Wadi: Task Force Attack'. Retrieved 31 Jul 17 from [http://www.v-ctc.com/v-ctc/wadi\\_aar.htm](http://www.v-ctc.com/v-ctc/wadi_aar.htm).

# Around the Regiment

## 16th Air Land Regiment

16th Air Land Regiment (16 ALR) this year, like the years before it, focused on our preparedness to pursue our missions. Preparedness is of course based upon the fitness of our equipment, soldiers and commanders. Large institutional drivers such as Project Land 19 Phase 7-B suggest that Integrated Air and Missile Defence lies at the heart of what we do at 16 ALR, therefore, we must be prepared to shape the operating environment, to shield friendly forces and when required destroy the enemy. All three are demanding to master and of course can only be done in cooperation with our sister RAA units, arms and services. The skills and knowledge forged from the Regiment's primary role result in added benefits to the Joint Force, particularly around air land integration, therefore, we continue to embrace these contributions, but recognise they are a product enabled from our primary role, which must always be guaranteed.

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*Preparedness is of course based upon the fitness of our equipment, soldiers and commanders.*

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Throughout the year, 16 ALR has ramped up our commitment to maintaining and mastering our unique capability. The soldiers and leaders of the Regiment are continually training and developing themselves in order to ensure they are prepared for any task. This paid dividends when our men and women were directed to rapidly adapt to undertake a Counter- Unmanned Aerial System (C-UAS) task with a new capability being introduced into operational service. Additionally, our soldiers are regularly called upon to undertake tasks supporting the other services, groups and organisations such as CASG and DST Group, along with our industry partners. This of course is in addition to our regular commitments on major domestic and international exercises.

16 ALR was heavily committed to the ADF's major exercise, Talisman Sabre 2017, deploying the entire Regiment in the field providing both a 'near peer' adversary force element as well as an Air Land Battery force assigned to the 'blue force' providing both air defence and sense warn capabilities to the supported force. Rounding out the deployment, a Division Air Land Integration Cell was embedded into JTF Headquarters and Ground Liaison Detachments were embedded into RAAF Task Units in Townsville, Amberley, Williamtown and Glenbrook. Finally, the Regiment's Headquarters established a Joint Air Land Integration Cell combining with the US Army's 5th Battlefield Coordination Detachment and 94th Army Air and Missile Defence Command at Joint Base Pearl Harbour and Hickam in Hawaii supporting the 4 Star Combined Joint Headquarters. The field exercise component took place in Shoalwater Bay Training Area, Queensland.

Back home in barracks, the Regiment has built a successful relationship with RAAF Intelligence personnel from 87 Squadron, with staff providing an intelligence function to the Regiment three days a week to keep members of the Regiment informed on current events, developing capabilities and the operational environments strategy outlook.



16 ALR key leadership receive a current intelligence brief from 87 Squadron staff

Regimental sporting events are an important part of Regimental life throughout the year, providing healthy competition and building esprit de corps amongst the Battery's. Sports

played have included basketball, touch football, netball, soccer and AFL, with each Battery competing for the coveted title of ‘Champion Battery’. The 56km Yurrebilla Trail Challenge, an endurance event aimed to build mental resilience and physical toughness, with individuals conducting either a run or walk of the undulating track that runs through the Adelaide Hills, was another key event on the calendar helping to ensure we remain fit to fight.



Members of 1 AGO Battery verse 110 Battery in the Regimental Netball Competition in October 2017



Members of 111 Battery go up against CSS Battery in the Regimental AFL Competition in August, 2017

The future is transformational for the Regiment, with Land 19-7B the framework and means to enhance our air defence, sense warn, and air land integration capabilities. New capability will present challenges, but more importantly provide opportunities for us to develop into a credible and essential modern capability for the Joint Force.

16 ALR personnel remain dispersed across different bases around Australia. Through the provision of air land integration planning and operations by 1st Air Ground Operations Battery in Woodside, Williamstown, Sydney, Amberley, Townsville and Adelaide, as well as the 110th Air Defence Battery and 111th Sense, Warn, Locate Battery based in Woodside Barracks, our

capability is widespread and of continued importance. The articles that followed provide short summaries of the 16 ALR sub-unit activities undertaken throughout the year.

### **1st Air Ground Operations Battery**

Some may ask what is the 1st Air Ground Operations (AGO) Battery within 16 ALR? In short, it’s a Battery of discrete capabilities that came into being in part, due to the disestablishment of the 1st Ground Liaison Group and the subsequent broadening of then 16th Air Defence Regiment into the now 16th Air Land Regiment.

1 AGO Bty comprises Air Land Integration Troop responsible for providing integration effects at Brigade and Divisional level, Ground Liaison Troop with Ground Liaison Detachments 1-10 (Dets 1-3 comprising a Major and WO2 and Dets 4-10 comprising CAPT and SGT/WO2) posted to RAAF Bases Townsville, Amberley, Williamstown, Richmond, Edinburgh, an ARES capacity covering RAAF Bases Darwin and Tindal and on the radar, a presence at 32 SQN RAAF Base East Sale. The third AGO Bty troop is Joint Terminal Attack Controller Troop based at RAAF Williamstown, NSW, responsible for maintaining and developing FORCOMD’s JTAC capability.

### **Air Land Integration Troop**

The Air Land Integration (ALI) Troop has had another successful year in 2017. The year began with the initial implementation of new Divisional Air Land Integration Cell (DALIC) systems on exercise POLYGON WOOD. This capability flowed into exercise TALISMAN SABRE 17, where the ALI Tp deployed at both the Div and Bde covering several functions. This was a great learning opportunity which identified many areas in which we could grow our capability and our personnel.

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*Some may ask what is the 1st Air Ground Operations (AGO) Battery within 16 ALR?*

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Post EX TS 17 ALI Tp was fortunate enough to participate in several working groups with both Field Support Reps and the Land Network Integration Centre (LNIC) focusing on improving our use of current digital systems and preparing our Gunners for significant upgrades (of both software and hardware) which we



eagerly await in the coming months. In barracks the Troop has devoted time to developing the training continuum for incoming soldiers, improving equipment management practices and dominating the Regimental Touch Football competition held in mid- October. All in all it has been a good and suitably challenging year, with 2018 already shaping up to lead us into new and better things including participation in Ex Pitch Black 18.

### **Ground Liaison Troop**

(SERVICING RAAF AIR MOBILITY GROUP, AIR COMBAT GROUP AND SURVEILLANCE & RESPONSE GROUP)

### **Air Mobility Group GL Detachments**

Throughout the year GL DET 1 working as the conduit for Army within the Air Mobility Coordination Centre (AMCC), have been heavily tasked supporting requests for Service Air. Additionally, they have been at the forefront of planning for the IIS of Air Mobility Tasking and Control System (AMTACS), which will see new request procedures rolled out across the Services commencing Nov 17. GL DET 1 tasking is further supported at the RAAF task Sqns with the GLOs from detachments at Richmond, Amberley and Townsville. A snapshot of their work for the current year is captured below.

### **GL DET 4 (35 & 37 SQNs RAAF Base Richmond)**

GL DET 4 has had another busy year with a focussing on continued superior liaison and relationship building, mutually beneficial training, professional development, community engagement and short notice tasking. Throughout the year GL DET 4 has participated in several high profile tasks which has seen the reputation of GLOs grow considerably. With the usual support being required for a number of SOCOMD and SQN Raise Train & Sustain activities it should also be noted that this year has seen an increase in activity from 35 SQN (C27 Spartan) as they move towards Full Operational Capability. Highlights for GL DET 4 this year include, but are in no way limited to, Exercise TALISMAN SABRE, MARS RAT, PEGASUS ZEPHER and DIAMOND SHIELD. Additionally, this year saw CAPT Carter deploy on OP AUGURY to the Philippines with 48 hours' notice to move, and therefore allowed 16

ALR to prove we could exceed our directed level of responsiveness when required.

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*... he appeared on a live television debate on the subject of Male Suicide.*

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Two major foci for GL DET 4 this year have been Professional Development and Community Engagement. CAPT Carter and SGT Barnett have completed both the Basic and Intermediate Air Power Courses along with a myriad of other academic studies along the way. Their commitment to increasing knowledge and reputation has seen them lead the way in other areas as well with requests from external units to provide briefings on both Ground Liaison related subjects and Suicide Awareness. CAPT Carter is well known for his passionate work in the field of suicide prevention and it should be noted that less than a fortnight after his return from OP AUGURY he appeared on a live television debate on the subject of Male Suicide.

This continued commitment by GL DET 4 to go above and beyond just the basics of Ground Liaison has seen them become an integral part of not only 35 & 37 SQNs, but RAAF Base Richmond and the greater Sydney region as well. It has also seen both members formally recognised for their work, SGT Barnett receiving a CO 37 SQN Award and CAPT Carter being presented with a RAAF Bronze Commendation.

### **GL DET 5 (38 SQN RAAF Base Townsville)**

GL DET 5 has continued where it left off in 2016, enhancing support to a wide range of Defence units across Australia and International Engagement activities abroad. Throughout the year they have supported numerous high profile activities which have enhanced the GLO's integration, effectiveness and reputation in having tasks supported by RAAF. Support tasking with SOCOMD units have grown with Base Station Relay (BSR) and assisting in the development and introduction of the ISTAREW capability.

Major activities supported have included TALISMAN SABRE 17, TC DEBBIE ASSIST, PEGASUS RANGER, HELICON LUK, OLGETTA WARRIOR, and OP APEC ASSIST. Support to TC DEBBIE was a notable effort at short notice with 1 TOPO SQN developing product that enhanced and effectively gave a multitude of supporting elements, including the COMD 3 BDE greater



oversight to direct assistance over a large area. OP APEC ASSIST has taken 18 months of ongoing work with 1 TOPO SQN to support the PNG Government for APEC 2018. This has been achieved with support from 1 TOPO and RAAF achieving excellent results, which has resulted in enhanced bilateral working relationships with the PNG and Australian Governments.

GL DET 5 has focussed on enhancing the capability of RAAF support in North Queensland and the Northern Territory and ensuring the effective use of RAAF assets on tasks. SGT Robertson has used his background in Survey and Meteorology to work closely with 1 TOPO to ensure the best chance of success in large area collect missions across the continent. SGT Robertson has also used his UAS skills and knowledge to assist in the helping SOCOMD units in the implementation of Project 1037 ISTAREW.

#### **GL DET 6 (33 & 36 SQNs RAAF Base Amberley)**

2017 has seen GL DET 6 broaden its scope to include a number of key deliverables aimed at increasing the air portability and capability of Army units. This has been conducted in addition to the sustained provision of integral liaison support to enable greater Army access to strategic service air platforms. Inaugural flights for both the M777 and Shadow UAV have been enabled through the re-writing of air carriage publications and direct engagement with user units. This has enabled 1 Regt and 20 STA to gain access to more timely transport options and the capacity to deploy further afield.

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*... ongoing involvement with SOCOMD has provided the opportunity to refine procedures ...*

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From an exercise perspective, GL DET 6 has deployed elements on EX TALISMAN SABRE 17 and has provided support to almost every major Army exercise during 2017. EX TALISMAN SABRE provided the opportunity to engage with our US counterparts at the 5th Battlefield Coordination Detachment and participate in professional discussions on the provision of strategic airlift effects to Army whilst conducting a multi-national exercise.

GL DET 6 has provided continued support to SOCOMD through the provision of numerous air logistic support and airborne operations

spanning several activities. This ongoing involvement with SOCOMD has provided the opportunity to refine procedures with individual user units and has seen substantial development and familiarisation projects completed particularly in the provision and rehearsal of strategic communication systems.

Looking forward, GL DET 6 will continue to support RAAF's Plan JERICHO through the provision of a high level of support to all user units and the maintenance of a strong project focus in order to derive the maximum benefit from service air platforms for the benefit of both RAAF and Army units.

#### **Air Combat Group and Surveillance & Response Group GL Detachments**

The ACG GLO's have participated in and contributed to a number of activities and exercises including Ex Havoc Strike (RAAF MRE prior to deploying to the MER Air Task Group) and Ex Diamond Spear. ACG GLOs were kept busy during Ex Talisman Sabre supporting the fighters out of RAAF Base Amberley and Mackay Airport as well as the AOC at RAAF Glenbrook.

SRG GLOs continue to liaise and work in with the various units to put into place the first steps towards inter-service air space management in line with the RAA's Land 19 Ph 7B Short Range Ground Air Defence project. The IAMD (Integrated Air and Missile Defence) program will see Army establish new relationships with the RAAF and RAN IOT facilitate a coordinated air battle management system.

GL continues to support the Air Task Group (ATG) in the MER with GLO support to the strike cell out of Al Dhafra Airbase (ADAB) in the UAE. The GLOs provide flight crews with the ground picture, points of interest and potential targets throughout Iraq in the coalitions support to the ISF (Iraqi Security Forces) in their fight against Daesh. The ATG GLOs are doing exceptional work and are highly regarded by coalition partners across the region.

#### **Joint Terminal Attack Controller Troop**

JTAC Troop at RAAF Base Williamtown has completed another busy year on a skeleton staff with inputs into the DTCS Working Group, the JTAC TAGs, provision of JTAC support to 4 Regt during Ex BROLGA STRIKE and TALISMAN SABRE as well as instructing on

two JTAC Ab-Initio courses and two Ex NIGRUM PUGIOs (the FORCOMD JTAC currency activity conducted in Townsville with US Navy squadron VFA-27 the “Royal Maces” travelling from Japan to support the first activity and RAAF’s 3 SQN (Classic Hornet) supporting the latter activity. Both squadrons were exceptionally professional in their provision of Close Air Support to FORCOMD’s JTACs. JTAC Troop also found the time to visit 1, 4 and 8/12 Regiments to screen potential candidates for future JTAC courses.

The year started with the biannual JTAC screening events conducted across the country to identify those members with the attributes and ability to become a JTAC. This saw many junior artillery observers test their skills at calling in aircraft under varying stresses while being supervised by JTAC Troop members. As a result of the screening, three JFO’s were panelled and passed their subsequent JTAC course at the beginning of the year.

After JTAC course JTAC troop rolled straight into Ex NIGRUM PUGIO 17-1, the FORCOMD biannual JTAC currency and proficiency event. USN VFA-27 (Super Hornet) flew in support of FORCOMD’s JTACs. The activity provided a great opportunity to liaise and integrate with our US partners and offered a fantastic opportunity to provide realistic training and learn from other nations’ operational experiences.



JTAC Troop members conducting Exercise Nigrum Pugio 2017

OC JTAC Tp, CAPT Cameron Phasey, headed off on Ex LONGLOOK in April, on exchange with 29 Commando Regiment RA, and in return JTAC Tp hosted CPL Ben Stewart. While on Ex LONGLOOK CAPT Phasey travelled to numerous Artillery Regiments including the School of Artillery, 19 Regiment RA and the Honorary Artillery Company, the oldest Army unit in the UK. CAPT Phasey Deployed on Ex

WESSEX STROM, a BG level certification exercise for 3 Commando Brigade where he integrated with BDE HQ as a BDE JTAC and was able to coordinate UK aircraft from a forward position. It wasn’t all work however, CAPT Phasey enjoyed the social aspect of the UK culture attending balls and social events including the annual Army vs Navy Rugby match at Twickenham stadium.

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*CPL Stewart’s exchange, being able to see the way Australians incorporate offensive support across the battlespace.*

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CPL Stewart on the other hand, during his brief stay in Australia was fortunate enough to participate on Ex BROLGA STRIKE with 4 REGT RAA, alongside JTAC Troop’s SGT Chris Pacey and SGT Corey Freckleton. The three members of the Troop provided support to 4 Regt RAA from calling in direct and indirect fire to coordinating CASEVACS and Close Air Support. Ex BROLGA STRIKE was a highlight of CPL Stewart’s exchange, being able to see the way Australians incorporate offensive support across the battlespace. CPL Stewart stated ‘the lessons I’ve learnt whilst on Ex LONGLOOK will change the way I operate when I get back home to the UK’. CPL Stewart also immersed in the Aussie culture visiting many of Australia’s finest beaches, attractions and even an AFL match.

1 AGO Bty has experienced a diverse year with tempo not slowing since January. We’ve achieved some rewarding technological milestones, ran into a few technological roadblocks, continued to cement Army’s relationships with the RAAF and the US Army’s 5th Battlefield Coordination Detachment in Hawaii and continued to integrate land and air effects.

Another Ex NIGRUM PUGIO occurred in late October just prior to the majority of the Troop posting WEF Dec 17

### **110th Air Defence Battery - The Black Cats**

2017 has been a rewarding year for 110 Battery. As Army’s stewards and only operators of the Short Range Air Defence (SHORAD) capability, there have been numerous opportunities to support the Joint Force in warfighting exercises and importantly, support to ADF operations overseas.

110 Battery has focused on foundation Air Defence Tactics, techniques and procedures to

maintain an operationally ready focus. The culmination of multiple Battery level exercises focussing on combating near peer air threats, led to the successful completion of Exercise Sixth Sense, at Cultana. Exercise Remagen Bridge, the battery's live fire activity was also highly successful and saw the demonstration of high levels of JNCO and soldier technical and tactical skills. 110 Battery was then ready to support 3 Brigade in Exercise Talisman Sabre 17. 110 Battery successfully defended key Brigade nodes. This exercise also enabled the implementation of a new battery command post construct that will aid in the introduction into service of the capability being procured via Land 19-7B in the future.

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*The Battery has also had some outstanding individual performances over the year, ...*

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Despite the conclusion of the year's road to Talisman Sabre series of exercises the tempo has continued for 110 Battery. The Battery was tasked to support new equipment testing in the United States, deploying members to Exercise Bold Quest 17. The testing of new Identify Friend or Foe equipment is critical for the Battery's continued modernisation and preparedness to fight in any contested environment.

The Battery has also had some outstanding individual performances over the year, most notably BDR Walker who was awarded a Soldier's Medallion for his exemplary performance as the radar detachment commander. BDR Walker's efforts promoting confidence in the battery's equipment and was instrumental in the conduct of live fire activities based at Woomera.



110th Battery gunners at Woomera during the Live Fire Exercise in 2017

The Battery will continue to support operations in the short term as it contributes to Army's deployed C-UAS capability in the Middle East.

Despite all of the achievements of 2017, the Battery still has much to do to remain fit to fight and maintain the ADF's only Ground Based Air Defence capability. The Battery as always will remain engaged with CASG and DST Group to ensure that our current capability is best prepared to take on the challenges and threats of the present until such time that we transition to the new capability being introduced via Land 129-7B.

### **111th Sense, Warn, Locate Battery - The White Rats**

2017 has been a rewarding year for 111 Battery. As Army's stewards of the Counter Rocket Artillery Mortar and Air Surveillance capabilities, there have been numerous opportunities to support the Joint Force with participation in exercises, and more importantly, through the provision of support to ADF operations.

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*... the Battery still has much to do to remain fit to fight ...*

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111 Battery this year focused on becoming masters of its Air Surveillance and sense and warn capabilities by constantly training and against a number of contingencies. Battery level exercises aimed at honing Detachment and Troop technical and tactical skills culminated in Exercise Valiant Detector supported very ably by 6/13 Light Battery's mortars. Additionally 111 Battery enabled 1st Brigade as the near-peer air defence adversary throughout Exercise Talisman Sabre 17. This provided an excellent opportunity to dynamically train Air Defence procedures and principles with the use of simulated weapons and capabilities including some large blow up decoys masquerading as SA-11 SAM launchers.



111th Battery on Exercise VALIANT DETECTOR at the Cultana Training Area in 2017



As the year progressed, the tempo for 111 Battery continued to increase. Like 110 Battery, 111 Battery also made the most of an international engagement opportunity by deploying members in support of Exercise Bold Quest to the United States. This positive cooperation will aid the establishment of future relationships as Army moves to modernise its Air Defence capabilities as part of LAND 19-7B.

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*... the Battery still maintains a substantial commitment to the future development of Air Defence tactics, doctrine and capabilities.*

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The Battery has been the beneficiary of some outstanding individual efforts, most notably BDR Pates who was awarded a Soldier's Medallion for his exemplary performance as a detachment commander and Battery member. This has given the Battery great confidence as it develops the next generation of JNCOs to take Australia's air defence capability into the future.

The Battery actively contributed to current operations by deploying SGT Christopher Brown to Saini in support of OP MAZURKA and deployed CAPT Brett Watson to Iraq in support of OP OKRA. The Battery will further increase its support to operations in the near future as it maintains a commitment to Army's deployed Counter-UAS capability in the Middle East.



Captain Brett Watson (rear rank, second from left) on OP OKRA

The Battery always fielded teams in the Regimental sporting competitions throughout the year, and managed to pull out a win in the Regimental Basketball tournament. The Battery is well placed to compete strongly in the all corps soldier skills 'Hayden Shield' competition in early November and plans to finish off the

year with Adventure Training on the Murray River.

Despite 2017 rapidly coming to a close, the Battery still maintains a substantial commitment to the future development of Air Defence tactics, doctrine and capabilities. Throughout the year, the Battery supported a number of capability trials with DST Group and CASG to ensure that our capability remains robust and relevant as threats develop. The Battery will aim to carry this momentum into 2018 as new challenges and opportunities will invariably arise.

### Summary

There is much to look forward to in 16 ALR. The Regiment's commitments in 2018 will see a large deployment on Exercise Pitch Black with the RAAF in the mid-year, multiple Battery level training exercises, as well as the continued operational generation of our follow on C-UAS contingents. Whilst there will be a changing of some of the guard at the end of the year, including the departure of our Regimental Sergeant Major, WO1 Jason Jarvis, the Regiment will continue to focus on stewarding the air defence capability and remaining experts at air land integration.

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## 20 STA Regiment

*Progressing the ADFs ability to generate Tactical Unmanned Aircraft System effects into the future*

*Provided by Major Brendon Gledhill  
Operations Officer*

In 2017, 20 STA Regt has experienced a shift in focus from TUAS flying skills and Flight Management System development to one of capability progression. The maturing of the organisation over the last seven years has created a solid foundation for the sharp minds of the soldiers and officers of the Regiment. Thus, ensuring the Shadow 200 method of operation and its supporting C2 are refined to provide flexible and effective ISR collection support at all levels within Army and the Joint environment across the full spectrum of operations.

The Regimental Plan 2016-18 sought to take the Regiment on its next evolution of continuous



improvement through four Lines of Effort (LOE). It forged a path of pioneering Shadow 200 capability expansion and consolidation through live and simulation based training, strong risk management and short learning loops between sub-units. The plan sought to maintain fighting capacity whilst strengthening the recruitment, deployability, training, category progression and character development models. With this guidance the Regiment saw an unprecedented number of capability enhancements and milestones achieved in 2017 which has ensured 20 STA Regt remains poised and able to support the ADF with a modern and flexible TUAS effect.



**LOE 1: 'Our people': Find them, grow them and look after them.**

Throughout the year, 20 STA Regt has been very active in promoting the benefits of joining the Army and the RAA. The Regiment has had display stands at Avalon Air Show, Brisbane Air Show, ADFA and 7 Bde Open Days where we have educated potential candidates that the way forward is to be a UAS operator in the RAA. Support has also been provided to Defence Force Recruiting to ensure all recruiters have up to date and accurate information on the trade. This education was enhanced through support to a number of visits to the Regiment by indigenous and female groups.

The work has not stopped there, as we have supported 7 Bde Defence Work Experience Program with monthly visits to the Regiment from high school students and roadshows on Small Unmanned Aircraft Systems to local schools. The Drone Racing Championships that were held on the Gold Coast were also supported with a Shadow 200 display and an Air Vehicle Transporter was even used as an obstacle in the circuit (video on YouTube)! For general awareness the Army is creating its own Drone Racing Team with any ADF member who is interested and capable of the rapid flying of

drones being free to try out. Join up if you dare! From January 2017 a total of over 40 separate recruitment or educational events were participated in by members of the Unit.

Within a highly technical trade such as UAS operations the retention of corporate knowledge and skill sets with the Regiment is critical. The implementation of SERCAT 3 DA-26 has allowed a number of Textron Flying Instructors to conduct additional training after hours for members within the Unit. This initiative has been critical in the maintenance and progression of individual currency and categorisation.

**LOE 2: 'Our future': Embrace technology, change and opportunity.**

The Regiment has achieved extraordinary results within this LOE in 2017. TUAS Batteries now have the ability to conduct Step-Up operations as standard practices to both formed and austere airfields. This provides the capability flexibility in deployment methods and allows the Battery to conduct tactical ground manoeuvre whilst maintaining ISR support.

In addition, the Regiment has successfully conducted OT&E for the Shadow 200 Laser Target Designator. Shadow 200 Operators and ARH (Tiger) pilots from the 1 Avn Regt conducted Manned Unmanned - Teaming (MUM-T) and successfully engaged three ground targets (1m x 1m) with 100% accuracy at a range of over 5km with Hellfire missiles. The achievement was amplified due to the Tiger, relying entirely on the Shadow 200, to observe the target, for identification and terminal guidance. This event demonstrated the interoperability of MUM-T and the provision of greater survivability to manned platforms.



During the same exercise the opportunity was taken to conduct artillery adjustment utilising

the M777 from 102 Coral Battery. Shadow again successfully adjustment artillery fire requiring just one adjustment to achieve target rounds. This demonstrated the accuracy of the system and the flexibility of airborne observers. These two engagement methods have highlighted the effectiveness and flexibility of TUAS as a reliable targeting platform.

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*has created a solid foundation for the sharp minds of the soldiers and officers of the Regiment.*

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20 STA Regt also proved the C-17 strategic airlift for a TUAS Battery in its current configuration. This allows the TUAS to strategically deploy at short notice with integral mobility.



Exercise Talisman Sabre 2017 was the first opportunity to test the above concepts in a tactical environment. The Battery integrated into the joint coalition complex environment with the Launch and Recovery site based from Williamson Airfield. The Battery conducted TUAS operations from a shared manned and unmanned runway, conducting all deconfliction through RAAF Air Traffic Control. TUAS operators and Mission Commanders were noted, by ATC, for their professionalism and safe operations throughout the exercise. This is the Regiment's first step on the road to conducting safe TUAS operations within civilian airspace.

Developments in the proliferation of Small and Nano UAS across Army this year resulted in the Regiment diversifying and becoming the Army subject matter experts in all things UAS. The Regiment has undertaken a number of education days to all Brigades providing advice on how to procure and safely operate Commercial off the Shelf (COTS) UAS including Phantom, Mavic and Solo. The Regiment has also gained a number of Military off the Shelf (MOTS) In Service assets including Wasp and Black Hornet. This has allowed the wider Regiment to be trained and better understand the utility of these systems to provide advice to other organisations on their utilisation. If any member of the RAA requires advice or is interested in this for their concept of operations please contact the author of this article.

### **LOE 3: 'Our character': Be better humans.**

The Regiments character development program kicked off at the start of 2017 with the conduct of a Character Leadership Course in Canungra. Members of the Regiment participated in a number of teamwork activities which allowed all ranks the opportunity to test themselves on decision-making and task planning. The culminating activity was completion of the Obstacle Course and a 10 metre confidence jump into water. Our members also participated in the Strength Development Inventory (SDI) which is a practical tool used to identify the motivation behind behaviour (why individuals act the way they do). Outcomes achieved were a better understanding of individual strengths and the diversity of team motivation. Other character development activities included an arduous three hour activity based on US Navy SEAL physical training at the Sandgate mud flats. Clearly evident throughout was the teamwork and maximum effort from all participants in the exercise.

### **LOE 4: 'Our message': Be proud, be humble, be informed.**

The Regiment has embraced social media as a platform to inform both current and ex-serving members and their families of the achievements and progress and status of the Unit. This has assisted in maintaining the 'Regimental family' for members who have decided to seek other employment thus keeping all members abreast of the Units activities and maintaining interest if they decide to return to Army.



*Outcomes achieved were a better understanding of individual strengths and the diversity of team motivation.*

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The Regiment has also been highly successful in honours and awards. Three Conspicuous Service Medals have been awarded to our Warrant Officers since the beginning of 2016 and there have been multiple soldier medallions awarded as well commendations. Of particular note was the awarding of the 2017 RAA Bombardier of the Year to BDR Aaron Bamford, an exemplar of the talent which exists within 20 STA Regt, especially amongst our junior leaders.



### “Seek to Strike”

20 STA Regiment will be looking to embed the progress achieved throughout 2017 and expand capability further in the amphibious and civilian airspace environments. The officers and soldiers of the Unit are well positioned and looking forward to the challenges and opportunities a replacement system will bring in the next decade.



## Joint Proof and Experimental Unit

*Major Nicholas Ullin  
Officer Commanding Proof &  
Experimental Establishment - Port Wakefield*

Buried deep in the ADO ORBAT is Joint Proof & Experimental Unit (JPEU), and its two Proof Ranges, Proof & Experimental Establishments (P&EE) Graytown and Port Wakefield. As is the case with Regimental tradition, the subunits have tended to be the enduring organisation rather than their higher level formations. Indeed, P&EE-Port Wakefield began on 5 Dec 1929 as a result of Commonwealth concerns that it should support a native industrial base that was capable of manufacturing ammunition should another major war eventuate. For many years both Proof Ranges operated under direct control of Army Headquarters until being established as a unit in the early 2000s, but with its core mission unchanged – to provide ammunition assurance.

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*... the purpose is to ensure that the ammunition is fit-for-purpose and safe to use.*

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This article is written to inform of general RAA reader of the work carried out at JPEU, with a particular focus on P&EE-Port Wakefield. It is not a technical or professionally-focussed article from which inferences should be drawn other than an up-to-date overview of its capabilities.

### What is Proof & Experimental?

The Commonwealth tradition in modern proofing was created in what became the Woolwich Arsenal, and was primarily focussed upon testing newly manufactured ordnance for performance and safety by over-pressuring the chamber. Australia has not needed this facility since WWII and thus the primary need for proof has been for ammunition. Again, the purpose is to ensure that the ammunition is fit-for-purpose and safe to use. The testing will be performed upon initial manufacture, such as the lot acceptance testing completed by P&EE-Graytown for small-arms ammunition. It is also completed at periodic intervals after the ammunition is warehoused in order to monitor its decline in performance as the propellant ages. This is known as “in-service surveillance” and forms a regular part of JPEU trials.

The Experimental side relates to test items for which greater understanding is required. This may be characterised as primarily developmental test & evaluation undertaken to investigate particular concepts, phenomena or materials in support of the design of a new system. It includes support to accident investigations through the replication of equipment and conditions so that any materiel failures may be identified, or indeed procedural errors.

### **Organisation**

JPEU is part of Explosive Ordnance Branch, Joint Logistics Command, Joint Capabilities Group. As of mid-2017 it moved from Vice Chief of Defence Force Group but continues to reside in the joint service world. Of the twelve-odd test agencies in Defence it is one of two that is not located with its Capability Manager (namely CN, CA and CAF). This has not always been the case as prior to 2001 its work was directed through AHQ. Regardless of its higher organisation it has historically maintained considerable independence in effecting its ammunition assurance function. The disadvantage of this arrangement, however, is that the unit has struggled in recent years for adequate profile within Defence, and consequently its ability to secure sufficient resourcing. Impending changes will go some way towards addressing this.

### **The Customers**

The unit's 'customers' are typically Explosive Materiels Branch, Defence Science & Technology Group, Thales, Australian Submarine Corporation (ASC), multiple programs (such as Air Warfare Destroyer and LAND17), and other government agencies. Trials for other countries have been performed in the past, but is less common nowadays due to an ample workload being requested through the ADF. Commercial work is rarely conducted due to concerns about competing with private sector test agencies, amongst other issues.

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*... independence in effecting its ammunition assurance function.*

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When a customer wishes to request a trial they approach the JPEU Operations Manager to outline their needs. This will be followed up with a customer task plan that states their requirements and enables an appropriate scheduling period to be allocated. Trials planning staff will then commence their own

planning in order to detail the set-up, test method, data collection and reporting requirements.

It is normal for trials to be scheduled up to 12 months in advance, although operationally urgent tasks will be accommodated within a few days should this be necessary. Such trials are directed by the Service headquarters given their importance.

### **The Data**

JPEU exists, quite simply, to produce test data. This is its primary output and it goes to great lengths to ensure that it is accurate and unbiased. While JPEU has test & evaluation subject matter experts whom have the capacity to pass judgement on the relevance of results for its customers, it rarely does so. This is the domain of the customer whom will determine for themselves as to the significance of the information obtained through a trial. This is quite deliberate, for two reasons: the customer will likely have better placed experts to analyse the information, and, JPEU maintains its relative independence through taking no position as to data interpretation – it remains an unbiased collector of evidence.

### **Structure of Range Operations**

P&EE Port Wakefield classifies its work into Static, Dynamic and Environmental test & evaluation. This covers the range of kinetic and non-destructive testing that it is most likely requested to perform.

**Static Trials.** This category comprises the static initiation of explosives (i.e. causing the ammunition to function without putting it through a weapon and firing it). This might be to experiment with a new formulation of explosive compound, to observe armour penetration, understand force protection measures, for instance. Work in recent years conducted at P&EE-Graytown observed the effect of protection upgrades to the Protected Mobility Vehicle. DSTG will often conduct research into energetic effects of high explosive and casings. Material strength trials will understand the effects of blasts onto steel plate. Ammunition Technicians will be exposed to experimental designs and non-in-service munitions on a regular basis, including the occasional mystery object from up to 90 years ago that washes up on the sand flats and has lost all identifying features.



**Dynamic Trials.** Dynamic trials increase the scope of testing to include firing ammunition through the weapon system, in a controlled environment. This category covers the projectile-based trials which require a significant proportion of the Establishment's resources to conduct. It includes 76mm and 5/54 gun for the Navy, as well as the M777A2 for Army. Calibres of 40mm and below are generally tested at P&EE-Graytown, although the LAND40-2 automatic grenade launcher project conducted 5 weeks of testing at Port Wakefield in 2016. Naval proximity fuzes (minus main charge) are tested against a suspended target between the Variable Time Towers in order to observe their performance. The Australian Munitions manufactured propellant for 5/54 ammunition are routinely tested to ensure consistency between lots. Importantly, the Establishment also is in the midst of LAND17 Future Artillery Ammunition (FAA) trials in order to provide data that will enable the building of prediction models in AFATDS.



Figure 1 - Variable Time Towers for testing of proximity fuzes. The suspended metal ball will trigger fuze operation as the projectile passes close by.

**Environmental Trials.** Environmental trials subject ammunition and weapon components to mechanical or climatic stresses to determine how it would perform in the field. The Environmental Test Facility was absorbed into JPEU from DSTG in 2002. This organisation is divided into three core disciplines: vibration/mechanical testing, climatic testing, and radiography (i.e. x-ray). While these are conventional industrial capabilities, the incorporation of explosive ordnance as the test item makes this a little more specialised. It should be noted that while static and dynamic testing are primarily destructive, environmental testing is non-destructive due to the object being to observe the test item under various environmental stresses. Staff are all APS due to the very long time required to build expertise.

This facility regularly tests ASC components for installation on submarines using its pressure vessel that can simulate their operation at depth. The pendulum test rig will subject server mounts in destroyers to high G shock to simulate a missile or torpedo strike. Vibration tables can simulate carriage of a test item in a truck, rotary or fixed-wing aircraft or other vehicle. Indeed the Establishment recently simulated a satellite payload being launched from Earth up to its terminal orbit. Explosive ordnance will be subjected to diurnal cycling to prematurely age the explosive content, and then be investigated with x-rays to look for voids, cracks and delamination that represent a danger. The capabilities of the Environmental Test Facility not widely known, but it particularly important part of Defence's industrial support base.

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*... in the midst of LAND17 Future Artillery Ammunition (FAA) trials in order to provide data that will enable the building of prediction models in AFATDS.*

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### Staff and skills

Current manning is an even mix of military and APS. The military will typically post into roles which require operation of in-service equipment such as the M777. They will also learn to operate a number of bespoke equipments such as the Oto Melara 76mm gun, which is mounted to a M1 Howitzer Carriage, or the 5/54 Mobile Proof Gun Mount – a WWII era naval gun bolted to a commercial low-loader. Training to operate forklifts, telehandlers, cranes and other plant is often given to military staff.



Figure 2 - 76mm Oto Melara on M1 carriage

The APS are the core of the organisation's capability. They are critical in fostering skills and knowledge required to run a professional test & evaluation organisation. Some of these disciplines take 5 years to become competent,

and 10 years or longer to be deemed something of an expert. They come to the unit from a range of backgrounds. They often have a trade skill, or have worked in other industry in areas relating to precision measurement. Many are ex-military, although this is a declining proportion compared with the past.

The unit is adjusting to this trend by amending previously accepted paradigms that some positions must require qualifications that can only come from completion of particular military courses. This compels the organisation to either engage with each Service and gain APS positions on these courses, or to align position requirements with externally-delivered qualifications. JPEU and the Services have to be flexible in this approach – the alternative is that eventually JPEU will be unable to provide support to them, which will affect ammunition availability.



Figure 3 - 5/54 Mobile Proof Gun Mount – primarily used for in-service-surveillance of propellant.

### Community Relations

P&EE-Port Wakefield does not exist in isolation from the environment surrounding it. Considerable effort is directed towards maintaining a harmonious relationship with both the residential and maritime communities adjacent to its range boundaries. The range has a sizeable Prohibited Zone in the Gulf of St Vincent which is permanently excluded to public access. The Officer Commanding can also close several Restricted Zones for extended range shooting. This can cause tension with the local commercial fishing community over loss of access to these zones. Residents may also be sensitive to the noise of test items detonating from time to time. Interestingly, this is rarely from the community immediately next to the Range, but those 30 km away across the other side of the Gulf, or even the suburbs south of Adelaide, 120 km away! This can be caused by low cloud layers that may enable the sound to jump over Adelaide and make contact with the

earth on its far side. As with other Defence bases, community concerns must be accommodated in order to ensure the long-term viability of these sites.

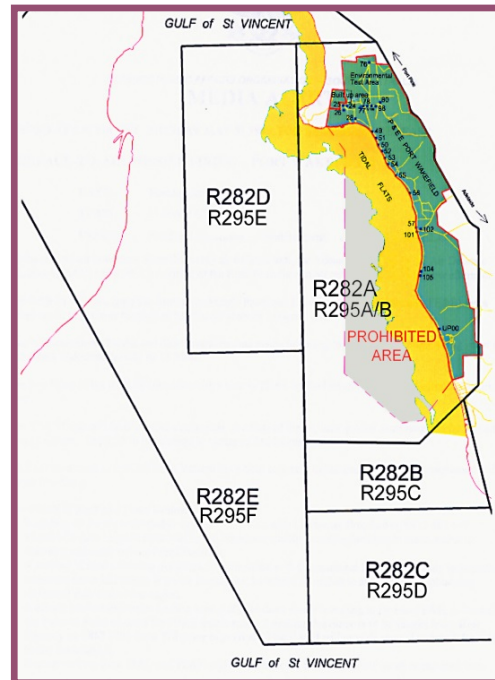


Figure 4 – P&EE-Port Wakefield Prohibited and Restricted Zones

### Proof and Experimental Capability Board

A significant event in 2017 has been the establishment of the Proof & Experimental Capability Board (PECB) in order to coordinate the explosive ordnance assurance requirements of the Services. This forum is expected to bring considerable clarity to JPEU's direction, resourcing and strategic importance to Defence. JPEU's capacity is limited, and it receives requests that substantially exceed its ability to deliver testing to its customers. Each Service's priorities, and indeed those within each Service, have not previously been coordinated and determined from a whole of ADF point of view.

This Board will ensure that the Services understand the role of JPEU test & evaluation in the acquisition and sustainment phases of their capability programs. This is can be easy to overlook due to scheduling and cost pressures, but will often result in problems further down the track. The PECB will ensure that the long lead-times required to procure and commission the appropriate specialised test and laboratory equipment to support platforms such as the M777A2, are completed well before these systems are delivered.

## LAND17 Activities at P&EE-Port Wakefield

The most significant 2017 trial at P&EE-Port Wakefield is currently underway with support to LAND17 Phase 1C.2 Future Artillery Ammunition program. The initial stages of this trial will integrate both a technical understanding of the new LAND17 ammunition with the newly introduced range instrumentation suite of 15 major items, the most significant of which is the Ballistic Tracking System (BTS). This is primarily driven by leading-edge dual Weibel multi-frequency tracking radars to accurately map the entire trajectory of a projectile to within a few meters of its actual flightpath.

When combined with other components, including various arrays of cameras for intermediate ballistics observation, mid-flight and splash-detection, it is possible to correlate the data to provide a highly accurate flight profile. Further instrumentation enables detailed laser mapping of gun tubes to track bore erosion; mass properties measurement instrument to determine projectile centre of gravity, axial and transverse moments of inertia ; and the introduction of an instrumented 155mm barrel which enables the recording of pressure-time curves, rather than maximum peak pressures. BTS, in particular, is an exciting new capability in Defence and has the interest of DSTG and RAAF where its use in scramjet and other trials has been sought.

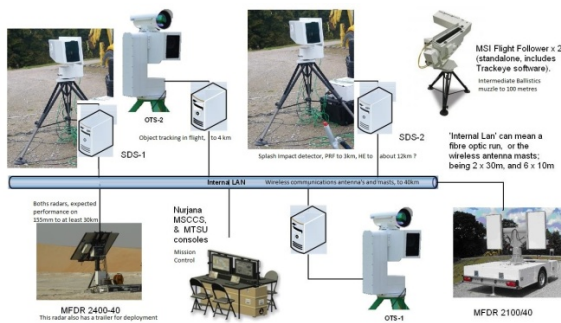


Figure 5 – a snapshot of some of the Ballistic Tracking System components. These are connected via a LAN to a mission control system whereby the radar cues slaved components to track a projectile in flight.

From 2018 the LAND17 FAA program will proceed to verification and validation trials to record the fire control inputs and build the trajectory data required for the NATO Armaments Ballistic Kernel modelling for eventual inclusion into AFATDS. As of the present time this is the most significant program of activities for P&EE-Port Wakefield over the

next three years towards which most of its resources will be committed.

## Conclusion

The work carried out at JPEU has taken place for many decades in order to ensure that the ADF has ammunition that is safe and suitable for use in training and operations. It has been primarily a RAA led organisation because of the Regiment being the majority user of munitions in the land domain. Its importance is being reinforced with the LAND17 program's next stage of introducing the new ammunition capability tailored to the M777A2. For military personnel, the unit offers in interesting posting in a role not often understood or discussed in mainstream forums. Personnel are deeply involved in not only the sustainment of current capability, but are often looking 5-10 years into the future of joint service programs.

## The times – They are a changin'

*Major Mick Gray, CSM  
Battery Commander, 6th/13th Light Battery*

The Australian Army continues to modernise with change better reflecting our diverse community, embracing technology, and further evolving its' manoeuvrist approach and effects-based operations.

So what? The current Army Reserve has never been more integrated nor asked to deploy its' capability side by side and within the broader Australian Defence Force organisation than it ever has, as in recent years.

*Come gather 'round people  
Wherever you roam  
And admit that the waters  
Around you have grown  
And accept it that soon  
You'll be drenched to the bone  
If your time to you is worth savin'  
Then you better start swimmin' or you'll sink like  
a stone  
For the times they are a-changin'*



This has realised a greater focus on delivering specified mission essential tasks and combined arms effects in the most resource efficient manner possible, particularly with technology tracking expenditure to the dollar against capability delivered. The Army Reserve must provide value and meaning to its existence, our government requires it, and Australian's expect it. For the Army Reservist this has changed the landscape of employment for many from a second career/part time job to a concurrent career.

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*The Army Reserve must provide value and meaning to its existence, our government requires it, and Australian's expect it.*

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This has presented challenges for many soldiers and officers, in what can be described as a work – work – life balance. This evolution has also affected our wider support communities who may resist or not understand the change from that they knew or experienced themselves. While vehicles, equipment and weaponry across Defence have always evolved alongside tactics, techniques and procedures, an outsider might argue the Army Reserve has not changed that much. This is far from the truth.

*Come writers and critics  
Who prophesize with your pen  
And keep your eyes wide  
The chance won't come again  
And don't speak too soon  
For the wheel's still in spin  
And there's no tellin' who that it's namin'  
For the loser now will be later to win  
For the times they are a-changin'*

Looking in from the outside, and perhaps some still serving within, an opinion may be formed that the change drivers are simply seeking greater efficiencies while increasing bureaucracy and governance, and believing the Army Reserve is doing less than it ever has. It is true that Army Reserve has achieved greater efficiencies and economies of scale, and coincidental to this achievement higher corporate governance has seen Army Reserve personnel and equipment health looked after better than it ever has. However, any argument or perception that the Army Reserve doing less is unfounded. Throughout the recent force generation readying cycle, and working with our partnered regular army brigade, reserve soldiers

and officers within the battalion averaged around 100 days of service. The simple fact is the Army Reserve must focus attention, effort and resources on those things it must do over those it might like to do, or legacy events it previously did. Change is the one constant in Army. Change also presents opportunity.

*Come senators, congressmen  
Please heed the call  
Don't stand in the doorway  
Don't block up the hall  
For he that gets hurt  
Will be he who has stalled  
There's a battle outside and it is ragin'  
It'll soon shake your windows and rattle your  
walls  
For the times they are a-changin'*

The battery has completed its first full three-year force generation cycle. During this cycle the battery integrated and exercised with the combat forces of the 1st Brigade as part of Battle Group Jacka, and deployed in support of 8/12 Regiment. A few members experienced individual or section level embeds with the New Zealand Army, United States Army and United States Marine Corps. Indeed, the Army Reserve is changing, and along the way they have become better trained, better equipped, and have experienced warfighting training with all the bells and whistles that the Army has on offer. Being ready the battery has deployed 10% of its capability on operations.

*Come mothers and fathers  
Throughout the land  
And don't criticize  
What you can't understand  
Your sons and your daughters  
Are beyond your command  
Your old road is rapidly agin'  
Please get out of the new one if you can't lend  
your hand  
For the times they are a-changin'*

To many people, change within the Army Reserve looks purely organisational as Army introduces structures to best suit its functional capabilities. This has seen amalgamation of sub-units, and unit and formational level transition. For some the emotional attachment is overwhelming, yet the unit title nor unit location defines unit identity. Our identity first and foremost is the Australian Army born through



pride in service to the nation, pride in the uniform, and in being part of the legacy of the ANZAC spirit, and taking it forward to maintain the global reputation the Australian Army enjoys. Soldiers would also argue it's not the job, but the people you work with - and that is a very healthy viewpoint too.

*The line it is drawn  
The curse it is cast  
The slow one now  
Will later be fast  
As the present now  
Will later be past  
The order is rapidly fadin'  
And the first one now will later be last  
For the times they are a-changin'*

The evolution of change continues into 2018, as does the commencement of a new readying cycle. At the end of this year the Gunners celebrate their 3rd birthday in the Royal South Australia Regiment, and their last as they set to transfer under command the newly raised 9th Regiment headquartered in Sydney (Kogarah). To the members, friends, families and associations supporting the gunners and our fellow companions-in-arms please accept our gratitude. To the gunner community we are forming, let's get on with it. I hope you take some time to read the lyrics of Bob Dylan and reflect at your own service and support to the Army Reserve in whatever context that is. The Australian Army and its Army Reserve has some great history. However, it is not our history that defines us and if we refuse to evolve then we aren't in the game ... and the times - they are a changin'. Ubique

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## 4th Regiment 2017

*Lieutenant Colonel Alwyn Payne &  
Warrant Officer Class One Stephen Schuman*

*The manner in which difficulties were overcome  
in bringing guns into action at Owers' Corner  
and later in taking guns forward to Uberi is  
another example of the aptness of the gunner  
motto, "UBIQUE".*

*Brigadier L.S. Barker, Commander Royal  
Artillery, 7<sup>th</sup> Div 1942*

As we look back on 2017, we seek a moment of your time to mark the key milestones and achievements from 4 Regt's perspective. Just today, the Adjutant of the Regiment has deployed with a team of 12 Townsville lieutenants to Papua New Guinea for a Professional Military Education tour that will see the participants, including an equal number of PNG lieutenants, TEWT the initial defence of both Milne Bay and Kokoda Station. The abovementioned quote relates to gunners' (in fact 53 Battery gunners from the 14th Regiment) challenges and successes in bringing the guns into action to support the turning point of the Japanese advance onto Port Moresby in 1942. We can only imagine the challenges those gunners faced, though feel with a great sense of pride that today's gunners of the Royal Regiment are as determined, resilient and innovative as ever.

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*... recognise that our champion battery,  
awarded on St Barbara's Day 2016, is  
106 Bty.*

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In addressing the state of 4 Regt in 2017, we should firstly recognise that our champion battery, awarded on St Barbara's Day 2016, is 106 Bty. Their fine achievements over the previous 12 months are recognised by this honour. By the time this article is published, that title will have been updated, possibly allocated to a different sub-unit – though all batteries of 4 Regt can hold their heads high for the achievements of this year.

Looking back over the year, 4 Regt will spend this Christmas through to mid-2018 as part of the Ready Combat Brigade – a fantastic responsibility to bear, and the key focus for training throughout the year. Coming through

Readying, we found ourselves at the forefront of Army's highest collective training levels. Our journey through a series of challenging exercises was extremely satisfying and challenging. The Regt learned a whole lot about our ability to do the job that Army expects of us. Those lessons spanned from individual to detachment, troop, battery and regiment. Whilst it could be fair to selfishly claim accolades for the success we, the men and women of 4 Regt, achieved on the journey, the reality is that the training outcomes were achieved with the support, directly in the case of 16 ALR and 20 STA Regt, and indirectly through all other RAA callsigns, including our reserve members.

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*We are fortunate to have a Head of Regiment with such high standards and passion. As ... with our Regimental Master Gunner, who is tireless in bringing the Regiment together ...*

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The themes of cooperation and support across the RAA are, in our minds, are keys to success in 2017. We are fortunate to have a Head of Regiment with such high standards and passion. As is the case with our Regimental Master Gunner, who is tireless in bringing the Regiment together and reminding all that we are fortunate to be part of this great team. 4 Regt is extremely grateful for the constant support across all Regiments, be it from assisting to meet a training milestone, manning augmentation, or working together to identify the critical path to where the RAA needs to be as we look forward to the next decade.

### **Training and Operations in 2017**

The Regt started 2017 at full tilt. We deployed on 6 Feb on Ex FIRST RUN. The earlier than usual start allowed us to ensure that our soldiers and officers, many of whom were earmarked for deployment with TG TAJI V, had the opportunity to be part of a regimental exercise before deploying. Operating in very high temperatures, with all btys of the Regt, as well as the soldiers and officers of 108 Bty (posted to 2 RAR), achieved great results. Highlights were the danger close practice and modified safety on the gunline.

With 107 leading as part of the 1 RAR BG Warfighter, we deployed back to TFTA in March. The Bde HQ and Regt JFECC supported the manoeuvre of a live BG, as well as two simulated BGs. This was the first time we exercised under the Div JFECC, allowing us to

form the working relationships that endured through the year. The exercise almost went to plan, but for a distraction by a cyclone (Debbie) that was forecast to hit our families in Townsville about to thirds of the way through the exercise.

The Bde redeployed down the hill straight into mounting the Response Force Company (RESFOR) commanded by MAJ Lingard and a Liaison Group commanded by MAJ Cosgrove. Of note, the Liaison Group deployed into the storm – i.e. they drove as fast as safely possible to hit the population centres that were expected to be hit by the cyclone (which subsequently crossed land centred on Airlie Beach), in order to reassure the local councils of Bowen, Proserpine and Mackay that Defence would support. The RESFOR followed almost immediately after the cyclone petered out, providing the horsepower the communities needed to get on top of the clean-up, reinforcing theirs and the Regt's good names in towns including Airlie Beach, Proserpine and Moranbah.

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*... six months they have received numerous accolades for their professionalism, leadership and sense of humour ...*

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Shortly following ANZAC Day, 23 members of the Regt deployed to Iraq with TG TAJI V under the command of MAJ Tarpley. Over the past six months they have received numerous accolades for their professionalism, leadership and sense of humour – all critical components of mentoring. As they complete their ROCL, the Regt is finalising the training for the next team to deploy under MAJ Lingard's leadership. These deployment opportunities come at a cost to the units in terms of residual vacancies when individuals are being considered, but as the OPSO 4 Regt, MAJ Casey, pointed out – this is those worthy individual's key opportunity and it is fleeting. It may be years before the same guys and girls get another chance. The RSM and I commend all leaders to take the hurt when faced with the same dilemma.

The Brigade and Regt had their final chance prior to Exercise Talisman Sabre to practice our collective training skills in May and June when we deployed on Ex Brolga Strike. The critical part of this exercise was the live fire component that saw the Regt support four battalion attacks over four mornings. Each attack incorporated

infantry, armour, engineers, artillery and close air support. All serials were at the safe limits of our training, mitigated by clear and professional de-confliction and a competent safety framework. The artillery was as close as 350 metres, and 175 metres for the armoured BG. It was fast and accurate. Each of the BG COs (known as harsh critics amongst peers) made the comment that the exercise was as real as any training they had undertaken. From 4 Regt's perspective, this praise is fairly and rightly directed to the outstanding gunlines and command posts that supported manoeuvre.

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*All serials were at the safe limits of our training, mitigated by clear and professional de-confliction ...*

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Exercise Talisman Sabre was the culmination point for 4 Regt's road to ready. In many cases, this was the first time we saw many of the supporting elements in real time, rather than simulated. The Regiment was supported very well by the hardworking and professional men and women from both 16<sup>th</sup> Air Land Regiment and 20th Surveillance and Target Acquisition Regiment. Their support, as was the case with our Royal Australian Air Force team ensured that 4 Regt was enabled and challenged to deliver the best coordination and execution of joint effects possible. It has to be said that the recently re-invigorated Divisional JFECC is a most impressive improvement to the way the land force fights. Whilst the capability outputs they deliver is truly world class, it is the collegiate approach of the people in that team who make the difference. They were always willing to give a steer or take some of the rock that was the problem on behalf of the subordinate JFECC, and readily supported and shielded the Combat Brigade during the journey. The Regiment performed to a very high standard through the exercise. This can be attributed to the outstanding junior leadership and innovation of all of the team.

4 Regt's assumption of Ready status aligned with some breathing space in our training programme. We found ourselves able to undertake an excellent period of adventure training, coordinated by MAJ Cosgrove, taking us from Airlie Beach to Tully Gorge to Cowley Beach. This was a great opportunity to build on small teams in a lower pressure environment.

Our final exercise of the year was Exercise Nadzab. North Queensland might owe us a debt

of gratitude for, despite a lack of rain and water restrictions, we broke the drought, seeing around 200mm in the first four days. The training was tough but our men and women were tougher, achieving excellent results overall. One highlight was the family day based out of Line Creek Junction – highly regarded by each and every one of our families and friends that joined us.

### **Noteworthy Achievements**

On the sporting paddock and in military competitions in 2017, 4 Regt had some great results. From selection of our members to represent in some of the highest levels of ADF sports, to the energy and enthusiasm shown during Brigade Military Skills Competition and inter-unit Brigade sports competitions. The common theme is that we haven't spent enough time in this arena, shifting sports lower down the priority order. Hopefully, this is an anomaly and not a new trend. A couple of notable sporting and competition performances include GNR Tonks' selection for ADF Aussie Rules as well as being granted Elite sports status and playing for the Canberra Demons in 2018, LBDR Hillegers efforts coaching Brigade Rugby, BDR Reid leading the Regimental Mil Skills team, GNR Christian Hughes' selection for Army and ADF in several sports including Touch and softball. PTE T Quinn was also granted Elite sports status to play for the Cronulla Sharks in the inaugural NRL women's competition and was selected for the Jillaroos 2017 World Cup squad.

### **Commendations**

In 2017, a number of members from 4th Regt were recognised for outstanding achievements. These included:

- CAPT Stanhope was awarded a JTF Commander's Bronze Commendation and a US Army commendation.
- CPL Brooks was awarded the Australia Day Medallion.
- LBDR J Moroney, GNR N Hodges and GNR L Holman received Soldier Medallions.

### **Promotions**

4 Regt also recognised many of our leaders with the following members promoted:




- CAPT Durnford – promoted to MAJ
- LT Gordon promoted to CAPT
- LT Nicolle promoted to CAPT
- LT Roberts promoted to CAPT
- WO2 Woodhall promoted to WO1
- BDR Anu promoted to SGT
- BDR Saliba promoted to SGT
- BDR Stevens promoted to SGT
- BDR Reid promoted to SGT
- LBDR Alexander promoted to BDR
- LBDR Barrett promoted to BDR
- LBDR Bellert promoted to BDR
- LCPL Brookes promoted to CPL
- LBDR Byrne promoted to BDR
- LBDR Farrell promoted to BDR
- LBDR Hosking promoted to BDR
- LBDR Hunter promoted to BDR
- LBDR Kingston promoted to BDR
- CPL McCarthy promoted to CPL
- LBDR Meirs-Devriendt promoted to BDR
- LBDR Chris Moroney promoted to BDR
- LCPL Ryan promoted to CPL
- LBDR Shaw promoted to BDR
- LBDR Somerville promoted to BDR
- LBDR Wright promoted to BDR
- GNR Broderick promoted to LBDR
- PTE Doulis promoted to LCPL
- GNR Farquharson promoted to LBDR

- GNR Fazldeen promoted to LBDR
- CFN Foster promoted to LCPL
- GNR Hillhouse promoted to LBDR
- GNR Mitchell promoted to LBDR
- GNR Smith, A promoted to LBDR
- GNR Smith, W promoted to LBDR
- GNR Zammit promoted to LBDR

As we look back on 2017 as it draws to a close, 4 Regt can be proud of our performance this year. The Regiment is not perfect and will always have room to improve. Our achievements can be characterised by the outstanding efforts of our junior leaders. As this command team hands over to LTCOL Duncan and WO1 Cole, we know that the success of the Regiment, as well as the Royal Regiment will be attributed to by our personal character and collective culture.

*feel a great sense of pride that today's gunners of the Royal Regiment*

When we work together, as has been the case across the RAA this year, we can achieve much more than the sum of our individual contributions. We wish all of those who are heading off on posting all the best and safe travels. As stated in the first paragraph, both the CO and RSM of 4 Regt in 2017 feel a great sense of pride that today's gunners of the Royal Regiment are as determined, resilient and innovative as ever.

  
IX

**Thinking about leaving the ARA but still enjoy soldiering?**

Then Up to 100 Days a year  
Join 9th Regiment RAA

Keep Trade and Rank  
Pay while converting


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IX

**Thinking about leaving the ARA but still enjoy soldiering?**

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## **PRECISION SKILLS NEEDED IN SOLDIER'S EXPLOSIVE ROLE**

ARMY – THE SOLDIERS NEWSPAPER  
NOVEMBER 16, 2017

Jack Jennings doesn't fly planes. He's not ground crew. He doesn't coordinate air movements. In fact he's not even a RAAFie but high on a hill south west of Townsville he's playing a vital role in facilitating the delivery of air power in support of ground forces.

LBdr Jennings, of 1RAR, sits 4000 metres from a target. Circling above is an F/A-18A Hornet loaded with a mix of weapons including high explosive ordnance.

On one of the two radios strapped to his chest, a discussion begins as the pilot and Jack work out a plan to deliver the payload on target. It's a crucial relationship of two people separated by 5000 feet and one where the margins for executing decisions come down to a couple of brief seconds.

The plan is set, followed by a low level attack. The bomb strikes perfectly, framed by a huge fireball. Several seconds pass until the boom of the explosion reaches Jack's vantage point.

This live-fire exercise has him one step nearer becoming a joint terminal attack controller. He's one of 12 students on the final steps of a course to provide the next generation of JTACs.

"Work in the classroom is all good but can only take you so far," he said. "There's no substitute for being out here and doing it for real."

This is Exercise Black Dagger. Two weeks in North Queensland that brings together a host of Air Force assets, as well as key support elements from Army, in order to test students nearing the end of a six week course. Making the trip from RAAF Williamtown, the instructors and two Pilatus PC-9A aircraft from 4 Sqn along with nine F/A-18A Hornets from 3 Sqn.

The JTAC course is very competitive. Students are hand-picked and for many it's been two years' fine-tuning skills to earn a place on this hillside.

CO 4 Sqn Wg-Cdr Michael Duyvene De Wit said for those who graduate, it's just the beginning with potential deployment to the Middle East in support of Operation Okra – the reason why Exercise Black Dagger has to be a realistic experience.

"We put so much emphasis to make sure they are battle ready and combat ready before they step out," he said.

"It's about them having to make an informed decision based on up-to-date information in a very dynamic or fluid environment."

Having made the short flight from RAAF Townsville pairs of 3 Sqn Hornets are held in the skies above the Townsville field training area.

One by one the students hook up with a single aircraft and so begins the complex task of setting a 500-pound bomb on a target four kilometres away.

Cloud cover, angle of attack, friendly fire, separation from other aircraft all in the mix before an attack is agreed upon. Once qualified the graduates of Exercise Black Dagger will be considerably closer to the target when they next call in the strike for real.

On that day the decision is made more difficult as civilians getting on with their lives may be very close to being in harm's way. There can be zero chance of calling it wrong.

# Rest

## JNCO & GNR of the Year - 2017

*Major Gary Down*

In 2016 the Head of Regiment of the Royal Australian Artillery, BRIG CD Furini AM, CSC, proposed an awards scheme with a view to investing more in supporting junior members of the RAA and expanding the opportunities available to them. To that end, the RAA Regimental Committee instituted two annual awards to recognise an outstanding JNCO and Gunner. These Awards enable the Head of Regiment to recognise and reward exemplary service of junior RAA personnel and are now presented annually for the ARA and biennially, from 2018, for the Reserve.

Importantly, the broad criteria for these awards are linked to those attributes that are specific to leadership at the respective rank levels; these being:

- Intelligence;
- Honesty and Integrity;
- Self-confidence;
- Ambition and High Energy;
- Task-relevant knowledge;
- The desire to lead;
- High self-monitoring (being highly flexible in adapting to different situations); and
- Emotional intelligence (an awareness and responsiveness to the feelings of oneself and others).

On the advice of the RAA History Sub-Committee, the names of John Carr Ewen and Edward William Mattner were proposed as examples of former Gunners who would have more than met the above criteria, and in whose names the two awards are now presented. It is

pertinent that both enlisted as Gunners in World War I, were decorated with the awards of the Distinguished Conduct Medal (DCM) and the Military Medal (MM) as JNCOs, and later with the Military Cross (MC) after having been commissioned in the field.

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*... an awards scheme with a view to investing more in supporting junior members of the RAA ...*

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It was also decided that if the Awards were to have the desired effect, they would need to include a 'significant' prize. To that end, it was identified that an appropriate prize that would not only be attractive to junior members, but also be an investment in the recipient's military professional and personal development, would be for the winners to undertake a short-term visit to an overseas artillery unit. The recipients of the awards therefore:

- Attend all or part of the RAA Regimental Conference for that year to receive their awards from the Head of Regiment.
- Undertake an overseas professional development visit.
- Receive an engraved military-style watch and Award Certificate.

All aspects of the prizes are paid for by the RAA Gunners' Fund.

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*In 2016 the Ewen Award, for the RAA JNCO of the Year, was awarded to BDR Aaron Bamford ... and the Mattner Award, for the Gunner of the Year, was awarded to GNR (now LBDR) Jacob Aitchison ...*

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In 2016 the Ewen Award, for the RAA JNCO of the Year, was awarded to BDR Aaron Bamford of 20th Regiment RAA, and the Mattner Award, for the Gunner of the Year, was awarded to GNR (now LBDR) Jacob Aitchison of 8th/12th Regiment RAA. These two young JNCOs flew to the UK on 9 Nov 17 for a two-week trip encompassing a week at Larkhill, the home of the Royal Artillery, where they visited the Royal

School of Artillery, 47th Regiment RA and 1st Regiment RHA and then a week in London. Whilst in London they visited The King's Troop RHA, watched the Changing of the Guard from the Forecourt of Buckingham Palace, had lunch at the Houses of Parliament and a private tour of the Palace of Westminster, were guests of the Yeoman Warders (Beefeaters) at the Tower of London and attended the traditional Ceremony of the Keys, had a guided tour of Hyde Park Barracks (the home of the Household Cavalry Mounted Regiment) and visited the Honourable Artillery Company.

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*... be an investment in the recipient's military professional and personal development, ...*

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At the recent RAA Conference, held at the School of Artillery Puckapunyal over the period 8-10 Nov, the 2017 award winners were announced. They were BDR (now SGT) Rohan McCaig of 8th/12th Regiment RAA and GNR Jake Hill of 4th Regiment RAA. They received their engraved watches and certificates from the Head of Regiment and planning will now commence for their overseas trip in 2018.



Head of Regiment (BRIG CD Furini AM, CSC), RAA JNCO of the Year 2017 (BDR Rohan McCaig) and the Regimental Master Gunner (WO1 DT McGarry)



Head of Regiment (BRIG CD Furini AM, CSC), RAA Gunner of the Year 2017 (GNR Jake Hill) and the Regimental Master Gunner (WO1 DT McGarry)

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## RAA JNCO of the Year Award – 2016 Report

*Bombardier Aaron Matthew Bamford*

I am currently employed as a Mission Commander on the Shadow 200 Tactical Unmanned Aerial System, in 20th Surveillance and Target Acquisition Regiment, 131st Surveillance and Target Acquisition Battery. I was fortunate enough to be awarded an 'all-expenses' paid trip to the Royal School of Artillery, Larkhill and London in the UK as part of the RAA JNCO of the year award. This award was sponsored and financed by the RAA Gunners Fund.

In mid-November this year, I embarked on the 32-hour journey to the UK with the RAA GNR of the year, Lance Bombardier Jacob Aitchison. On arrival at Heathrow airport we were greeted by our Australian liaison in Larkhill, WO2 Kayne Falconer, who gave us a quick tour of Larkhill, before dropping us at our accommodation in the transit lines.

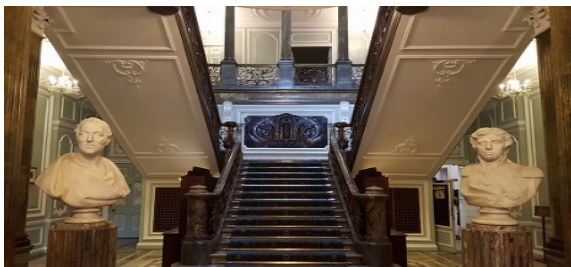
The next day was allocated as down time and WO2 Falconer was kind enough to lend us his car for the day. Both myself and Lance Bombardier Aitchison made the most of the day off, despite our jet lag, and drove into the nearby City of Salisbury. The military influence is apparent in Salisbury as UK Army Cadets were positioned at almost every street corner selling poppies for Remembrance Day. We also



managed to find our way to Stonehenge and one of the many chalk horse around Larkhill being the Westbury Chalk Horse.



The next day was the 12th November, which is Remembrance Day in the UK. In contrast to Australia, the UK does not commemorate Remembrance Day on the 11th November. While they carry out the two minutes silence at 11am on the 11th, ceremonies are reserved for the 12th of Nov. The Royal Artillery (RA) BSM WO2 Jones hosted us for the Remembrance Day ceremony at the RA Memorial in Hyde Park Corner. The ceremony was excellent and included King's Troop Royal Horse Artillery (RHA), B Bty RHA, 28/143 Bty and retired Regimental members parading with the RA band providing the music. Following the ceremony, we were invited to lunch by the WO2 Jones at the Royal College for Defence Studies. After lunch we were provided refreshments at The Grenadier, which has been serving the RA members after the Remembrance Day services for many years.



The next day was our first day of tours in Larkhill. WO2 Falconer led a tour through the Close Support (CS) Wing where he works as an instructor. CS Wing a training wing of the Royal School of Artillery teaching courses on gunnery, guns and ammunition, reconnaissance and command post, precision fires and joint fires. One of the interesting things noted during this and other tours is that sergeant's and above can bring their dogs to work and it is quite different seeing them around most of the office spaces here. After the tour of CS Wing, we met with WO2 Jones for a tour of Regimental Headquarters, RA and the training wing, where

we were taken through the command post training room and the AS90 simulators. From there we were taken through a tour of the RA officers mess. The curator of the mess's silver collection was able to give us a small insight into the history behind some of the pieces held in the mess from the 18th century through to modern day. There is over 11 million British Pounds' worth of silver that is cared for and still used during functions.



For the following two days, I was hosted by 74 Bty, 47 Regt which is a UAS Artillery Unit, very similar in structure and capability to 20 STA Regt, with its primary operational capability being the Thales Watchkeeper UAS. During my time there I was chaperoned by SGT Bradley, who is Desert Hawk operator. On the first day there, I conducted PT in the morning with the Regt, during which I discovered that they really do enjoy running! I was very well looked after by the members of 74 Bty, they included me in their daily routine and I was shown around their Regimental area, which included the simulator training facility and their flight training facility located at Boscombe Downs Airfield. I was also given the opportunity to look at and fly the Black Hornet SUAS and a DJI Inspire MRUAS UAVs. Bombardier Donisthorpe from the Bty also organised an Australian themed games night which including bobbing for apples and word games, finishing with presentations from their BC/BSM.

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*... during which I discovered that they really do enjoy running!*

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The next day we were taken to breakfast with the Royal Artillery Sergeant Major and WO2 Jones, where we presented WO2 Jones with a RAA Plaque in thanks for hosting us in Larkhill. After breakfast, we travelled to King's Troop, RHA, which is a ceremonial unit based in Woolwich, London. Their primary duty is caring for and driving teams of six horses pulling each of six First World War-era 13-pounder field guns used to fire salutes on state occasions. An interesting fact is that the King's Troop retains its name under Queen Elizabeth II in honour of her father, the late King George VI. We were



given a tour of King's Troop starting with the stables where over 150 horses are kept, and cared for by the NCOs and ORs. We also had the opportunity to make a leather keychain with the saddlers, conducted some forge training with the farriers, undertook a 30-minute horse-riding lesson and experienced life in the stables by 'mucking out' stalls. At the end of the first day, we were taken bowling by the some of the NCOs from Kings Tp. They went out of their way to include both myself and Lance Bombardier Aitchison and we had a great time competing. Finally, we departed for Wellington Barracks in London where we would spend our last week in the UK.



Upon arrival at Wellington Barracks, we commenced two allocated days of free time in London. Lance Bombardier Aitchison and I used this time to see as much of London as possible. Some of the standouts included; the Churchill War Rooms which is where Churchill conducted most of the war planning during the London Bombings in the Second World War and the Imperial War Museum, which has historical artefacts from Vietnam through to modern day conflict in Afghanistan. It was also quite fascinating just walking through London and experiencing shear amount of history everywhere you look, with many of the buildings throughout London being over 400 years old.



On the first day of our tour in London we visited HQ London Division followed by Houses of Parliament. HQ London Division is responsible

for State Ceremonial events including the Queen's Birthday Parade, State Opening of Parliament and other events of national importance. We were met by Guardsman Powell who took us through the HQ which is situated walking distance from Wellington Barracks. Here we were able to view a parade by the Guard and the Queens Household Cavalry in honour of a visiting French Diplomat. From there we visited the Houses of Parliament with Lieutenant Colonel Longbottom, where we were taken through The Westminster Hall, which is one of largest self-supporting roofs in England and is home to many Royal ceremonies and addresses to the MP's by visiting dignitaries due to its size and ability to house 100s of people. From there we visited the House of Commons which was destroyed during the Second World War and rebuilt under Winston Churchill during which he ordered some of the battle damage to remain as a constant reminder of the war. We also went through the House of Lords which housed some of the grandest architecture that we have seen in our visit. This is where the Lords debate bills and essentially acts as a check on the House of Commons that is independent from the electoral process.



The following day we visited Hyde Park Barracks and Tower of London. Hyde Park Barracks is home to the Life Guards and Royals and Blues Guards which make up The Household Cavalry. The household cavalry conducts ceremonial duties including guarding the reigning monarch at Horse Guards. We were fortunate enough to be able to observe a formal parade inspection of the Life Guards prior to them moving from Hyde Park Barracks to mount a 24 hour guard at Horse Guards. After the inspection we were taken on a tour of the stables which is similar in design and function to King's Tp. We were also provided with the opportunity to go through the quartermaster store, where all of Household Cavalry and the Royal Family store their ceremonial dress and weapons. We were able to view Prince William's breastplate, Queen Elizabeth II Ceremonial Jacket and

Princess Ann's Blues and Royals Headdress. After Hyde Park Barracks we went to The Tower of London where we were met by Yeoman Warder Jimmy James. He gave us a brief introduction and then we went on a self-guided tour of the Castle. It was founded towards the end of 1066 as part of the Norman Conquest of England. The White Tower, which gives the entire castle its name, was built by William the Conqueror in 1078. The White Tower is the earliest stone keep in England, and was the strongest point of the early castle. We were able to explore the white keep and see all the history throughout the White tower and the crown jewels that are kept within the grounds. At night we were invited back for the Ceremony of the Keys which started with a tour by Yeoman Warder Steve that took us through the chapel, the grounds and finishing in the 'The Keys' the Yeoman Warders own pub within the walls of the Tower. After the tour we were taken to the middle drawbridge to watch the ceremony of the keys. The ceremony has never been cancelled, and has been delayed only on a single occasion due to enemy action during the Second World War.

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*We were taken to the underground gun park ...*

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On our final day of the tour in London we visited the Honourable Artillery Company (HAC), where we were given a tour and history of the HAC during the day by WO2 Selwood. During the tour we were taken through the grounds and into Armoury House where the museum, all ranks mess and drill hall are located. The HAC was incorporated by Royal Charter in 1537 by King Henry VIII and is considered one of the oldest military organisations in the world, along with being the oldest surviving Regiment in the British Army. It is a Reserve that draws its members from many different units in the Royal Artillery and maintains an STA role. The grounds of the HAC form the largest block of grassed land within London City. If you were to place a cricket ball on the lawn, the amount of space it covers is worth \$20,000.



We finished the tour with lunch in the mess in Armoury House. In the afternoon, we were

invited back for 'parade night', one of two nights a week that the members of the HAC conduct training and finish with dinner and refreshments in Armoury House. We were taken to the underground gun park and given a brief by SGT Madrell on the L118 105mm light gun which is used by the Para Gunners of the HAC. At the end of the night were provided dinner and refreshments in the mess.

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## RAA GNR of the Year Award – 2016 Report

*Lance Bombardier Jacob Aitchison*

During the period of 10th November to 24th November 2017, I was awarded an overseas development / look at life trip to the UK, in particular the RA in Lark hill and central London.



RABSM presentation from the RAA. L-R: Myself, WO2 Cane Falconer & Bombardier Aaron Bamford

The first week comprised of meets and greets of the Larkhill high command, in particular the RABSM and RASM, Along with the exchange SMIG WO2 Cane Falconer. With the latter being a chaperone for myself and Bombardier Bamford for the week. We had a tour of the Lark hill base, with being allowed inside both the sergeant's and officers mess, had a tour of the RA HQ, along with the training establishments where the gunners, command post operators, forward observers and officers attend during their phase 2 training.

WO2 Falconer took us through the local suburbs surrounding Lark hill with showing both of us where to go for any supply needs. The main town being Salisbury, which has a wide variety of shops for food and dining out, along with a bit of site seeing with the Salisbury Cathedral and Stone Henge 20 minutes down the road.



I spent two days at B Bty, 1 RHA, where I was shown the gun detachments that operate the AS90 and how they go about conducting themselves during field training, maintenance of their equipment and barracks life. Most of the things they do are very similar to the way the Australian Artillery operates, like operating there weapon system (AS90), having a command post setup the same and the FO's calling in the attacks. The only real difference is the equipment itself.

To finish off the first week, we were invited to breakfast with the RASM and RABSM to see how the first week went and to congratulate both of us on our award. He and I took this time to also present a plaque from the RAA Association to the RABSM for all the hard work that they put in to make this trip a memorable one.



Kings Troop Farrier Lesson

The second week of the trip comprised of more meets and greets, a tour of houses of parliament, two days at Kings Troop, tour of Tower of London and a couple days to do some site seeing of London.

We first started at Kings Troop where we were given a tour of the Bty by one of the corporals along with being introduced to all the soldiers and horses that are there. This place was created by King George VI in 1946 to have a troop of horse artillery take part in great ceremonies of state. The Queen herself declared that the name 'Kings Troop' will remain along with the Troop itself to honour her father. The Kings Troop has its own veterinarians, farriers, and saddlers. The main role of a soldier and officer at Kings Troop is to care for and drive teams of six horses pulling First World War era 13 pounder field guns used today for salutes on state occasions. The bigger hoses 'black horses', known as charges are also used along with a gun carriage at state and military funerals.

During our time at Kings Troop we were given a horse riding lesson, shown how to flatten out a horse show with the farriers and shown how to make a key ring with the saddlers. To finish off our time at Kings Troop we were treated to a night out with a few of the soldiers of Kings Troop to enjoy a few beers while having a couple games of bowling.



Houses of Parliament Tour – Outside Terrace L-R: Bombardier Aaron Bamford & Myself

After our time at Kings Troop we spent the next two days enjoying the sites of London itself, for this was our own time to do whatever our heart desired. I started with visiting Westminster Abbey and having a tour inside. I was unable to take pictures inside the Abby, but I strongly recommend visiting this church if given chance. The inside is an architectures masterpiece, you will see where Kings of the past are buried and some very famous people have been remembered. When conducting this tour you will also be given an audio device to guide you through, along with detailed information on the Abby and everything inside of it. I then got to visit the Imperial War Museum, Winston Church Hill War Rooms, the Art Gallery and the Natural History Museum, along with exploring a little bit of the city London.



Westminster Abbey



After the weekend we had our tour of the Houses of Parliament with Lieutenant Colonel Longbottom. He gave us an informative tour showing us both sides of Parliament being the Commons and Lords. Which are dictated by colours, Commons are Green and Lords are Red. We were shown where the queen sits when she is in Parliament and how the system works when something needs to be voted on. This went for about two hours which was probably not long enough as there is so much to look at and talk about but Lieutenant Colonel Longbottom gave an outstanding tour which I would recommend using him again on the next trip.



Westminster Abbey Remembrance Day Commemoration

Tuesday, we had the opportunity to get a tour of the Queens Guard in London. We were shown a dress inspection involving the horses and the museum of the Guard which has all the dress that the soldiers were while riding the horses through London along with all the dress and weapons the officer's use. After our time at Hyde Park Barracks we were given the rest of the afternoon to do whatever we wanted to do.

The next day was our last day of visiting military establishments. For this we were treated to a tour, dinner and drinks of the HAC (honourable artillery company). We first were treated with a tour of HAC with how they operate, (reserve unit), what equipment they use, (light guns, 25 pounder) and a bit of history on the place, (first being raised 480 years ago). After the tour we had a few hours to ourselves for the afternoon before returning for dinner and few beers at their club inside the HAC. This was a great finish to our trip as we got to meet a few reservists, learn how they operate and enjoy a few drinks throughout the night with them.

Our last day in the UK was a day to ourselves to conduct anymore sightseeing and get ready for our return to Australia.

Overall the entire trip was very rewarding on both from a personnel and military development perspective. I was introduced to a different level of training compared to us but not too different in the fact that we both use similar rank structure with the exception of the British Army have Staff Sergeants, along with both of us using similar tactics in an training environment on when it comes to Artillery but we do use different equipment within the training.



London Cenotaph Remembrance Day Ceremony

I was very happy that I got to see how the British go about their customs and traditions, especially how they use horses for pretty much any type of salute or parade within the Artillery, which is pretty amazing to see. The people that I met, both military and civilian were very polite, knowledgeable and down to earth. If I ever needed a question answered or help with something there was always someone willing to provide assistance.

The only thing that could change for the next people going would be the time of year. The RABSM said the end of the year is their busiest, like it is for us. If there was an opportunity for them to go during the early or middle part of the year as there would be more activities for the members to do, also the weather during the middle of the year is a lot warmer.

# THE RAA (GUNNERS') FUND

## ANNUAL REGIMENTAL BADGE DRAW

1ST AUGUST 2017

THE RAA FINANCIAL PLAN STATES THAT 10% OF SUBSCRIPTIONS RAISED IN THE PREVIOUS TWELVE MONTHS ARE TO BE ALLOCATED TO PRIZES AS FOLLOWS:

- 1ST PRIZE -5%
- 2ND PRIZE - 3%
- 3RD PRIZE - 2%

THE BADGE DRAW WAS CONDUCTED IN AUGUST AND THE WINNERS WERE:

- FIRST PRIZE – BDR BL STEVENSON (16 ALR) - \$ 528
- SECOND PRIZE – GNR NS GILL (8/12 REGT) - \$317
- THIRD PRIZE – BDR PA INGER (SOARTY) - \$212



# Capability & Personnel

## COMBAT SUPPORT PROGRAM - JOINT FIRES COMMENT



LTCOL Andrew Langford  
SO1 Joint Fires



LTCOL Charles Slinger  
SO1 Air Land  
Integration

The rubber has well and truly hit the road for the team within the JF Cell! We have taken two key projects to committee in our first six months. LAND 17 Ph 1C2 (Future Artillery Ammunition) achieved Gate 2 CMGR endorsement under the stewardship of CAPT Tony Mumford in May, and LAND 8115 (Mortar Ammunition) achieved Gate 0 endorsement under MAJ Rhys Myers' stewardship in June. These excellent efforts from both project leads will see new improved mortar ammunition and a generational leap forward in 155mm ammunition. A special thanks for the supporting efforts provided by LEOSPO, namely COL Mick Ahern, LTCOL Tony Furman and MAJ Jon Abundo.

Just when we thought we had done all our forming, storming and norming we experienced a reshuffle in MOD-A at the Director level. We welcome COL Hugh Meggitt as our new Program Director and wish COL Joanne Whittaker all the best in her role looking after LAND 200 and Force Protection.

MAJ Andy McDonnell is busy finalising the requirements for LAND 17 Ph 2 (DTCS). He is also busy working behind the scenes on infrastructure and training systems, looking long and hard at the benefits of simulation. I must stress the vision and ambitions we have for simulation are not to replace the requirement for live fire, but rather to augment it! Thank you for your positive feedback on the first *Info Circular* and we are aiming to publish another one if not two before the year is out. — AL

The RAA has had a fantastic start to the new year with LAND 19 Ph 7B (Short Range Ground Based Air Defence) achieving Government First Pass approval in February. CASG will now take the lead in coordinating a number of risk mitigation activities as the Project moves to Gate 2 in early 2019. Continued support and contributions from the RAA community over this period is critical and will ensure we develop the best possible capability solution for Army. MAJ Rhys Myers provides greater detail on the Project on page 4.

LAND 19 Ph Ph 7A (C-RAM) continues to conduct sustainment work packages aimed at mitigating system obsolescence. Much of this work is managed and coordinated by CASG. Over the next few months focus will be on both rationalising C-RAM C2 sub-systems (to simplify the amount of equipment types) and on mitigating WAVES obsolescence. 16 ALR and Saab will be heavily engaged across these two areas.

16 ALR and AHQ have also commenced work with Saab/Boeing to address a capability gap of the Air and Land Common Tactical Picture Interface between the GAMB and Vigilare. The proposed demonstration intends to provide two-way passage of air track data, allowing GAMB to contribute to the broader Link 16 network and the Recognised Air Picture.

In the next edition we'll provide an update on Army's contribution to C-UAS developments. — CS

Source: Joint Fires Information Circular. For more Information refer to the Circular



## DSCM-A

*Captain Nicholas Dickeson  
Warrant Officer Class One Tony Kennedy*

As another career management cycle (CMC) comes to a close, it is important to review some of the key events and issues, and best prepare for the next CMC and key career milestones.

Rather than a snapshot of CMC events; we would like to offer some situational awareness to DSCM-A considerations this submission.

Of course, we farewell WO1 Tony Kennedy as his custodianship of the GNR – BDR portfolio and fervent RAA advocacy comes to an end in CM-A; progressing to his appointment as RSM 7th Combat Bde. We would also like to welcome the new team as he assumes the role of RAA Career Manager (CM) from 2018.

### RAA Structure

There has been significant movement in the past two years, with relation to the trade structures and remuneration that has required messaging through DSCM-A. This has seen changes to individuals pay and in some instances, ECN classification. The following implementation plans detail the changes and their effects:

#### OS

IP 07/16 – Restructure of skill grades to ARA Offensive Support employment categories.

IP 12/16 – Remediation of gap training requirements for ECN 357-2 Manager Offensive Support.

#### UAS

IP 06/15 – Termination of Army Reserve employment category Op Rader ECN 271.

IP 05/16 – Termination of Manager STA ECN 430 and restructure of Operator Unmanned Aerial System ECN 250.

#### Air Land

IP 04/16 – Restructure of ECN 237 to operator air missile defence system (OPAMDS) incorporating two streams a sense warn locate and ground based air defence.

The employment category managers remain responsible for, and focused on the trade effectiveness, relevance and quality; which is seen through the trade courses, the RAA manual of Army Employments, IPs and management plans.

DSCM-A remains partnered to assist with the communication of these changes and the management of individuals through units, to maintain capability and balance the various trade skills, where they are needed whilst developing into the senior soldiers of the future.

### RAA Health

All RAA units can see the vacancies in trades, particularly artillery observers and operator UAS positions; however, the strain is much wider spread. The following table is a snapshot of the ECN strength at each rank and the establishment / positions that exist for posting.

This snapshot does not take into account those individuals unable to fulfil the full scope of their duties; members separating or transferring for any number of reasons. These figures are simply a moment in time that can show our clear areas of need.

As indicated in the table, the RAA manning considerations extend further than the six artillery regiments and the school, and the ECNs are spread thinner accordingly. The RAA has an obligation toward the ongoing functioning of the wider RAA and Army; in particular, operations and training establishments.

This representation directly relates to the way in which the Regiment is perceived, but also increases the interoperability at the Bde, BG and CT level, where the networks and common experiences will facilitate a rapid assimilation and effective operation towards the mission.

The advertisement of our specialist job roles in these all-corps positions, serve as a recruiting tool for the ongoing growth of ECNs. The soldiers representing the Regiment in these positions carry a greater responsibility with a higher degree of scrutiny on their performance.

It is critical that suitable RAA representatives are selected and provided this opportunity for career development.

Strength / Positions	162		254		255	
GNR	244	281	108	123	87	83
LBDR	39	62	19	20	13	28
BDR	65	69	43	38	28	40
SGT*	38	27	22	21	19	21
WO2 (357)	76		60			
	250		237		Any RAA	Any corps (total)
GNR	76	52	75	99	5	3
LBDR	14	18	20	24	0	6
BDR	23	28	48	38	29	**140
SGT	19	21	29	16	19	***208
WO2	18	13	24	12	8	#273

**Note as at 12 Nov 17:** \*not including 5 ECN 357 SGT; \*\* total positions, expected RAA representation to be approx 24; \*\*\* total positions, expected RAA representation to be approx 35; and #total positions, expected RAA representation to be approx 46

Broader postings will provide the opportunity for networking and professional contributions that will be brought back to the Regiments as part of a soldier’s career development; in these opportunities the experience expected at the next rank and key appointments will be tested in the all-corps arena against peers. It is for this reason that vacancies will be greater in the regiments.

Sometimes ECN vacancies look unhealthy; however, this does not always reflect the current injection of new RAA soldiers into the regiments. It remains a careful balance but some ground has been made in strengthening the GNR numbers, particularly for ACSO and artillery observers. Key risk remains in the JNCOs cohorts and whilst disappointing is in line with observations of trends regarding age, relationships and family demographics for less stable workforce behaviour in the 21st century.

**JTAC**

The RAA is invested in the JTAC skill which makes a key operational contribution. The development of this skill requires considered input from the RAA community in terms of candidature, as well as the development of instructors. Although not controlled by the RAA, the natural development of this skill set falls to the artillery observers, due to experience and the proficiency on equipment. The appropriate candidates for this course must be identified within units to ensure effective course panelling and return to units. JTAC requires an adaptability and flexibility commensurate with

the artillery observer; however, the demands on spacial awareness and capacity to deal with the multi-dimensional battlespace are heightened.

The compounding stress on the trade positions are amplified with the addition of JTAC development. There are a number of key considerations in FORCOMD directive 45/17 - JTAC management plan AMDT 3, that focus on the development of the capability, and will require ongoing liaison between units and DSCM-A to ensure the right people are in the right place at the right time, developed to meet their promotion potential.

**Promotion**

Promotion must occur in accordance with the qualification prerequisites and training continuum as described in the respective manual of Army employment (MAE) for each trade. The promotion consideration zone for personnel advisory committee (PAC) review will occur at the four years-in-rank mark. This is a measure of eligibility and by no means should be the expected timeframe to achieve promotion. Review by PAC will not occur if competitiveness is not on par with peers, there has been recent disciplinary action, or due to a non-deployable medical classification.

Up to the rank of BDR, individuals must be qualified for promotion, AIRN compliant and have a vacant position at the next rank available for them to be promoted into.

For promotion to SGT and onwards, a PAC clearance must be gained. Course completion should be achievable in the year between PAC and promotion if not already as failure to do so will deny substantive promotion; AIRN compliance is required for the day of promotion. Individuals posted into a position of a higher rank must also be aware that this is not explicitly a precursor to promotion and that promotion will not occur before an instrument has been approved, which requires all of the above to have been achieved and demonstrated to a delegate.

To compete amongst peers, all serving members should be seeking opportunities to demonstrate potential to complete a range of roles and, more importantly, potential for the next rank. These opportunities will require an ability to post to new locations which needs to be communicated onto the family unit to make the process as smooth as possible. These opportunities create 'points of difference' between cohorts and good performance over a series of different postings demonstrates more potential and demonstrates greater career development than remaining comfortable in the culture of one unit.

**Transfers.** Consideration of transfers for Soldiers within their initial period of service will be scrutinised to determine the true service need. As the balance of trade health is a key factor in determining this need and in some circumstances will rest within the member's current trade.

MECRB. There has been significant headway in achieving timely case turn around. Currently, if the unit has not had a return on a MECRB case within six to eight, we encourage you to engage the RAA CM for an update and to ensure the case has logged progressed accordingly.

The management of establishment positions has historically resulted in 'double head counts', where two people have been posted to the one position. This has been a common phrase in CMA, and there has been a marked change with respect to the tolerance of double head counts. With a transition of the human resource management and payroll system to Defence One, there is now no appetite for double head counts as this will result in one of the people against the position not being paid. This means that an understanding of pool positions including Army personnel not related to establishment (APNRE) and long term medical management (LTMM)

will facilitate effective posting and manning solutions.

### **RAA CMC 18 alignment conference– 10-12 May 2017**

For the first time RAA CM facilitated a three day activity conducted in Canberra to align RAA pers FIC. Agenda items included capability priorities, address Army 'hollowness' challenges and analysing and building personnel capability collegiately as an RAA enterprise for the next CMC. This was an excellent opportunity to focus on one of the most challenging aspects in Corps business which is manning and trade structure development and assessment. The support shown by all RAA unit commanders and our senior WO1s including the RMG, WO1 Dave (Paddy) McGarry, RSM 6th BDE, WO1 Tony Hortle, OAM and CM SWOMS, WO1 Dave Lehr, OAM provided an important weight to the activity and contributed to steering practical outcomes. Although in its early stages of development, I am certain this activity will grow in size and output. With relating documentation promulgated on the RAA collaboration page for broader situational awareness.

WO1 Damien Lindsay as RAA CM in 2018 will continue to develop this concept and increase executable outcomes. There was a high degree of information sharing and a pleasing sense of unification as all unit RSMs and WOs worked to achieve the outcomes required to meet manning priorities and develop our soldiers in all trades. It is hoped the RAA Executive will continue to support its conduct and we will see the benefit of the Synch's continued development.

### **Career management friction points**

Concurrent to health considerations of individual trades, there are other career management friction points that awareness of will ensure effective and timely advice to soldiers. The development of soldiers in concert to the rigorous unit demands is a balance, and we endeavour to liaise to achieve the most agreeable time for the panelling of courses. However; assistance with identifying opportunities for members to attend courses in these high tempo periods will alleviate considerable stress on the remaining scheduled courses and continue to return a higher level of trained soldier to the unit.



Locations for posting are an ongoing issue, and all serving members must consider any location a possibility. This requires the ongoing flexibility of families, we would encourage individuals to consider the ‘pros and cons’ of all locations and be considered in approaching all options. Those members that have had experiences in units or locations with fewer posting opportunities must pass on their experiences to promote those areas – which will enable DSCM-A to achieve the best fit more often.

Finally, we would like to promote engagement with the CM through the appropriate unit representatives to achieve timely information in relation to career management, whether: transition, separation, MEC or posting related. Often an initial phone call could alleviate unnecessary administrative work.

### CM Reminders

**E-PARs.** Submission of EPARs must be in the electronic format as found on at the DSCMA homepage. PMKeys or web-form versions will not be considered in the preparation for the 2018 CGI tour. The window for EPAR submissions opened in October to allow appropriate comments from chains of command.

**CGI Tour.** Tentative timeframes for regional visits are:

- SE QLD: 12-23 Feb & NQ: 5-16 Mar
- NT / SA: 19-23 Mar and 2-06 Apr
- VIC: 9-13 Apr
- Wagga Wagga: 16-20 Apr
- Sydney: 23-27 Apr
- Canberra: 30 Apr - 4 May

Liaison with units will commence prior to coordinate the most convenient times to maximise attendance.

**Career Courses.** Engagement with the CM through the EPAR and CGI tour will facilitate accurate conversation as to what timeframes are reasonable to expect to complete career courses. In line with potential and merit, career courses are also panelled with these considerations. Engagement with units will also occur to ensure that the most appropriate course is considered in

order to achieve the least friction possible. There has been some confusion regarding career courses for SGT and above with the release of expressions of interest form NIPA. The CM remains the nominator for these courses, with continued liaison with units.

**PARs.** Everyone needs to take an active approach to their reporting, in understanding their duty statement and enabling open and honest dialogue at the beginning of the year to address shortfalls, as this will be noticeable to a PAC when they consider sequential PARs. Ensure you are signing a correct and reasonable reflection of your performance for the year. Once it is signed and submitted this is the main input to the PAC deliberations.

**DSCM-A collaborate page (SharePoint).** The RAA collaborate page will be developed over the coming months; with a vision to become more user-friendly and provide a platform to provide common advice to units. RSMs will be notified as the page is established.

We would like to thank everyone for a rewarding year and the very best for a new CMC, and as always look forward to seeing you all during the tour.

### References:

#### IP

[http://drnet/Army/DWMA/Employment\\_Management/Manual\\_of\\_Army\\_Employments/Pages/Implementation-Plans.aspx](http://drnet/Army/DWMA/Employment_Management/Manual_of_Army_Employments/Pages/Implementation-Plans.aspx)

#### JTAC

<http://drnet/Army/FORCOMD/PublicationsandOrders/Pages/Forces%20Command%20Directives.aspx>

#### Career Management

<http://drnet/Army/EMPA/ASI/Pages/Overview.aspx>



# RAA First Appointments

## Royal Military College – Australia 2017 End of Year Graduates

<i>Rank</i>	<i>Name</i>	<i>Unit</i>
LT	Allen, Zachary Jay	8/12 REGT
LT	Barr, Thomas Patrick	8/12 REGT
LT	Cailles, Jack Lindsay	4 REGT
LT	Cole, Stephen Lee	20 STA
LT	Colquhoun, Lachlan	1 REGT
LT	Condon, Scott Justin	20 STA
LT	Davie, Hayden Jeffery	16 ALR
LT	Hawkins, Alexander Allan	16 ALR
LT	Jolly, Hamish William	4 REGT
LT	McDonald, Anderson Edward	20 STA
LT	Mills, Cody Drew	16 ALR
LT	Noonan, Nicholas Michael	8/12 REGT
LT	Roadnight, Victoria Nancy	8/12 REGT
LT	Sandwell, James Alexander	16 ALR
LT	Stone, Brenton Sean	16 ALR
LT	Tait, Benjamin Aaron	20 STA
LT	Taylor, Jeremy Davis	8/12 REGT
LT	Walsh, Lachlan James	1 REGT

## 1st Recruit Training Battalion & School of Artillery Courses

### BCCC MOD 1 & 2 & SHADOW

GNR	Alifipo, Gloria Sepela	20 STA
GNR	Brown, Donald Andrew	20 STA
GNR	Cater, David Andrew	20 STA
GNR	Clothier, Alicia Yvonne	20 STA
GNR	Cornwell, Taylor Glenn	20 STA
GNR	Eldridge, Michael James	20 STA
GNR	Farrugia, Zak	20 STA
GNR	Fressard, Scott Francis	20 STA
GNR	Henderson, Charnise Jade	20 STA
GNR	Higgins, Jessica Jane	20 STA
GNR	Loynes, David Charles	20 STA
GNR	Murphy, Glenn John	20 STA

GNR	Sevo, Michelle	20 STA
GNR	Spadaro, Michelle Ann	20 STA
GNR	Taubert, Brian Edward	20 STA
BDR	Bonnick, John Henry	20STA

### BCC MOD 1 & 2 GUNNER GRADE 1

<i>Rank</i>	<i>Name</i>	<i>Unit</i>
GNR	Attenborough, David Kyle	SOARTY
GNR	Bartlett, Patrick Heily	4 REGT
GNR	Booyse, Hertzog	4 REGT
GNR	Burgess, Ethan James	SOARTY
GNR	Casilli, Anthony	SOARRTY
GNR	Cocks, Alexander Rodney	SOARTY
GNR	Corbett, Dylan James	8/12 REGT
GNR	Cramp, Isaiah James	4 REGT
GNR	Crismale, Jake Matthew	1 REGT
GNR	Duff, Samuel Gerald	1 REGT
GNR	Field, Jessie James	1 REGT
GNR	Foot, Morgan Kieboom	1 REGT
GNR	Graydon, Matthew Charles	4 REGT
GNR	Hantos, Claudia Louise	4 REGT
GNR	Heart, Jamie Kaitlyn	SOARTY
GNR	Head, Jesse John	1 REGT
GNR	Jonas, Isaac John	8/12 REGT
GNR	Jones, Marc Allan	8/12 REGT
GNR	Lim, Andrew	SOARTY
GNR	Malone, Jack Keeley	4 REGT
GNR	Merriner, Kyle Doulas	8/12 REGT
GNR	Page, Alastair James	4 REGT
GNR	Pickett, Nathanael Paul	1 REGT
GNR	Quattrocchi, Tanner Hugh	SOARTY
GNR	Shen, Tao	4 REGT
GNR	Smith, Colin John	1 REGT
GNR	Snee, William James	4 REGT
GNR	Valdez, Brahian Esequiel	SOARTY

### BCC MOD 1 & 2 JFT BASIC DIGITAL

<i>Rank</i>	<i>Name</i>	<i>Unit</i>
GNR	Alder, Bailey Peter	1 REGT
GNR	Bosman, Dylan John	4 REGT
GNR	Carlyon, Nicholas Alexander	1 REGT
GNR	Comsa, Stelian Constantin	8/12 REGT

GNR	Eastwood, Shane David	1 REGT
GNR	Fidler, Olivia Ellen Rose	20 STA
GNR	Gerrard, Callum Morgan Paul	1 REGT
GNR	Gomapas, Emmanuel Gabriel	4 REGT
GNR	Halls, Benjamin Marcus	8/12 REGT
GNR	Harvery, Jarrod Keith	4 REGT
GNR	Horan, Kane	1 REGT
GNR	Mabb, Harrison Spencer	20 STA
GNR	Maguire, James Patrick	8/12 REGT
GNR	Plunkett, Nathan Alexander	1 REGT
GNR	Saroukos, Thomas	16 ALR
GNR	Singh, Jaspreet	8/12 REGT
GNR	Timms, Phillip Steven	4 REGT
GNR	Vulinovich, Thomas	8/12 REGT
GNR	Zippel, Kobe Jackson	4 REGT
GNR	Gibb, Ashley Drew	20 STA

**BCC MOD 1 & 2 GUNNER GRADE 1**

<i>Rank</i>	<i>Name</i>	<i>Unit</i>
GNR	Bell, Hamish Edmund	1 REGT
GNR	Bucknell, Liam James	8/12 REGT
GNR	Chaniel, David James	SOARTY
GNR	Collins, Jesse Daniel	1 REGT
GNR	Delicata, Matthew Hayden	4 REGT
GNR	Duggan, Cale Jay	1 REGT
GNR	Elliot, Cody Leigh	SOARTY
GNR	Fale, Fale Losefo	1 REGT
GNR	Grant, Lachlan Alexander	8/12 REGT
GNR	Harper, Axel John	4 REGT
GNR	Hemantharaju, Sathvik	SOARTY
GNR	Jackman, Matthew John	1 REGT
GNR	Kenzie, Hayden Lyell	8/12 REGT
GNR	Massine, Craig Peter	4 REGT
GNR	Musial, Jarrod James	8/12 REGT
GNR	Nhoung, Gary	8/12 REGT
GNR	Perry, Heath Lachlan	8/12 REGT
GNR	Phillips, Brendan	
GNR	Polhman, Julian Rhys	1 REGT
GNR	Robinson, Corey Lo	1 REGT
GNR	Schuler, Thomas Jason	1 REGT
GNR	Semmler, Kyle John	8/12 REGT
GNR	Shalders, Mitchell Leigh	8/12 REGT

GNR	Weldon, Ben Alexander	4 REGT
GNR	Wilkinson, James Craig	SOARTY
GNR	Dawson, Jye Shane	SOARTY
GNR	Dawson, Jonathon Andrew	1 REGT

**BCC MOD 1 & 2 BASIC OP GBAD**

<i>Rank</i>	<i>Name</i>	<i>Unit</i>
GNR	Gulli, Joshua Matthew	16 ALR
GNR	Bell, Toby Michael	SOARTY
GNR	Blake, Lachlan David	SOARTY
GNR	Brown, Adele Charlotte	SAORTY
GNR	Browne, Jessica	16 ALR
GNR	Foot, Morgan Kieboom	1 REGT
GNR	Fuss, Ruby-Lee	16 ALR
GNR	Hjorth, Sophie Isobella	16 ALR
CFN	Humphreys, Riley John	ASEME
GNR	Isemonger, Zac Alexander	16 ALR
GNR	Smith, Benjamin Thomas	16 ALR
GNR	Stenson, Matthew Brian	16 ALR
GNR	Vaivads, Darien Karl	16 ALR
GNR	Van Niekerk, Sure	16ALR
LBDR	Altmann, Timothy Stuart	SOARTY
GNR	Cupitt, Jarrod Christian	16 ALR
CFN	Malligan, Blake Rooney	16 ALR
CFN	Duffy, Tyler	16 ALR
GNR	Pizzato, Brandan	16 ALR
GNR	Collins-Nayler, Robert A	16 ALR

**BCC MOD 1 & 2 ACSO BASIC**

<i>Rank</i>	<i>Name</i>	<i>Unit</i>
GNR	Bagrianov, Eric Gary	SOARTY
GNR	Barron, Letitia Louise	8/12 REGT
GNR	Burrows, Jesse Claude	1 REGT
GNR	Coralde, Luigi Algero Cecilio	4 REGT
GNR	Cox, Michael Nelson	1 REGT
GNR	Dickinson, Oliver George	4 REGT
GNR	Ewin, Declan Patrick	1 REGT
GNR	Hejji, Adel Sameer Nasr Ismail	8/12 REGT
GNR	Leonard, Patrick Jason	1 REGT
GNR	Linsley, Simon Ray	8/12 REGT
GNR	Lloyd, Samuel Thomas	4 REGT
GNR	Longhurst, Macauley James	8/12 REGT



GNR	Mann, James William	1 REGT
GNR	Miles, Cara Michelle	8/12 REGT
GNR	Murphy, Angus Federick	4 REGT
GNR	Papagelakis, Daniel Alexander	8/12 REGT
GNR	Paternoster, Jesse	4 REGT
GNR	Penny, Jaidyn Russell	4 REGT
GNR	Quartermain, Jesse Alan	SOARTY
GNR	Schulz-Todd, Ross Elliott	1 REGT
GNR	Shairov, Philipp	SOARTY
GNR	Swansson, Dylan Norman	1 REGT
GNR	Turner, Budd Ivor George	8/12 REGT
GNR	Wei, Wei	SOARTY
GNR	Wemyss, Blake Walter	8/12 REGT
GNR	Whitehead, Benjamin Joseph	8/12 REGT
GNR	Loveday, Thomas Daniel	1 REGT

**BCCC MOD 1 & 2 BASIC OP SW&L**

<i>Rank</i>	<i>Name</i>	<i>Unit</i>
GNR	Aberts, Michael	16 ALR
GNR	Smith, James	16 ALR
GNR	Dunn, Joseph	16 ALR
GNR	Bartuccio, Blake	16 ALR
GNR	Goatcher, Timothy	16 ALR
GNR	Patch, Conner	16 ALR
GNR	Kapinos, Vasilious	16 ALR
GNR	Mago, Arcane	16 ALR
GNR	James, Liam	16 ALR
GNR	Baker, Hugh	16 ALR
GNR	Lewis, Jade	16 ALR
TPR	Mackie, Bradley	SOA
GNR	Hunt, Matthew	SOARTY
PTE	Quartermain, Jesse	SOARTY

## Promotions & Appointments

The Head of Regiment congratulates on behalf of everyone the following officers, WO2s, SNCOs and JNCOs who have been promoted.

- Lieutenant Colonel RH (Rich) Watson to COL
- Major B (Bennie) Gray to LTCOL
- Major PA (Peter) Allan to LTCOL
- Major RR (Ryan) Barrow to LTCOL
- Major JR (Joe) Wheatley to LTCOL

**SUBJ 4 WO GNY CSE Members Promoted to Warrant Officer Class Two**

- SGT Matt Hazelton – 4 Regt, OPSWO
- SGT Sammy Jenkins – 1 Regt, BG 104 Bty
- SGT Luke Kime – 4 Regt, BG 109 Bty
- SGT Peter McDonald – 1 Regt, BG A Bty
- SGT Stephen Nicoles – 1 Regt, BG 103 Bty

**WO2, SNCO & JNCO Promotions: Period July 2016 – Nov 2017**

*Surname*                      *Christian Names*

**Promoted WO2**

- Ashurst                      Scott Andrew
- Barwick                     Timothy Samuel
- Bushell                     Byron Burnett
- Charters                    Troy Ian
- Crichton                    Toby James
- Grieve                      Thomas Douglas
- Hill                         James Andrew
- Osborn                     Susan Linda
- Rappard                    Steven Hendrik
- Swindell                    Nathan John
- Toby                         John David
- Wakefield                 Bradley Trent
- Windridge                 Nicholas Andrew

**Promoted SGT**

- Anu                         Jon
- Cooke                     Daniel
- Elms                        Jason Troy
- Ferrari                    Nino
- George                    Elton
- Griffiths                  Daniel
- Haywood                  Steven John
- Matangi                    Justin
- McCoombes                Shayne
- Powell                    Craig
- Reid                        Brian Jonathan
- Rogers                    Steven
- Saliba                     Michael
- Sennis                     John
- Stevens                    Jason

**Promoted BDR**

- Alexander                 Nathan Brian
- Armstrong                Gregory Paul
- Ayris                      Scott James
- Bellert                    Sean Mathew
- Berlin                     Luke David
- Bestmann                 Dean Robert
- Braithwaite               Bruce Edward
- Bramley                    Kurtis Ross
- Burns                     Damian Joseph Darcy
- Byrne                     Brenton Roy
- Casini                     Michael Lawrence John

- Chivas Dale Robert
- Crane Luke
- Crowden David Joseph
- Dole Eric Michael
- Dotchin Steven Craig
- Dureikin Andrey Evgenyevich
- Duthler Klaus Joseph
- Elford Benjamin Edward
- Faragher Liam Robert
- Fisher Scott Jonathon
- Fleming Matthew William
- Flindall Sean Mathew
- Flower Jarrod James
- Gibson James Dominic
- Hodge Jacob Richard
- Hosking Jake Peter
- Hunter Jordan Brian
- Kingston Benjamin Robert
- Little Brett William
- Love Blake Stuart
- Lovejoy Shane William Brett
- Marcus Aaron Andrew
- Martinez Caryl Anthony Estalozza
- Mitchell Luke John
- Moroney Jake William John
- Morrison Ben
- Mutton Damian Leonard
- Nangle Daniel Mark
- O'Connor Mark Timmy
- Onekawa Kynan Leigh
- Pal Matthew Mark
- Pashley Timothy James
- Pattugalan Nikita Caine
- Phillips Llewellyn
- Porter Terry Brent Andrew
- Price Oliver James
- Rogers Mitchell James
- Shaw Toby Joe
- Smart Andrew James
- Smith Cameron Richard
- Somerville Luke Alan
- Stevenson Benjamin Luke
- Stewart Thomas
- Sue Patrick Hugh Raymond
- Sutton Eliah James
- Szumowski Kurt John
- Thompson Luke Robert
- Walker Michael John
- Young Jamin Alexander
- Zaloumis John
- Baulderstone Richard Peter
- Beckingham Martin Paul
- Boetje Nicholas Michael
- Brinkworth Jason Barrie James
- Carvosso Christopher William G
- Caven Jack Conner
- Conroy- Bagby Trent Paul
- Dalton Max Paul
- Farquharson Robert James
- Gilbert Luke Christian
- Govett Kody Graham
- Gurney Jamie Michael
- Hansen Shane Anthony
- Harris Mitchel Jaymes
- Hayden Nicholas John
- Hickson Warrick Daniel
- Holliday Zak Thomas
- Hrcan Matthew Michael
- Ison Kurt Bruce
- Jeffree Erich Michael
- Jennings Jack Darren
- Joyce Samuel David Kenneth
- Khann Matthew David John
- Lane Joe Thomas Crawford
- Luck Samuel John
- Lynch Jesse Ryan
- Macdonald Heath Alexander
- Mackay Neil James
- McDowell Scott James
- McIntyre Luke James
- McQueen Brenton Anthony
- Miers- Devriendt Luther Karl
- Morley Andrew William
- Muradian Sevan
- Nuttall Timothy Lloyd
- Paterson Rory Oliver
- Peace Daniel Aden
- Reschke Matthew James
- Rowe Thomas Alan
- Russell Nathan Edward
- Selwood Stewart James
- Sills Bradley Robert
- Singh Ravinderjit
- Smith William James
- Smith Aaron James
- Sonners Luke Benjamin
- Stewart Sam Jordan
- Symonds Samuel James
- Taylor Brandan Kenneth
- Waine Brendan Mark
- Watson Shane Michael
- Watson Ian Robert
- Williams Damian Luke
- Woodley Abel Joseph
- Worgan Ben Alex
- Zammit Christopher Samuel C
- Cooper Andrew

**Promoted LBDR**

- Aitchison Jacob Alan
- Altmann Timothy Stuart
- Andrews Aaron Jackson
- Antoniak Jack Porter
- Bajic James David
- Barber Richard-James
- Batchelor Tristan Raymond

## **RESEARCH ON ARMY CULTURED CENSORED**

RORY CALLINAN, DEFENCE WRITER, THE AUSTRALIAN JULY 26TH, 2017

Defence is refusing to release even the titles of a feminist sociologist's tax-payer funded research into army culture on the ground that disclosure would provoke "public speculation", making it harder to act on the information.

The department has declined The Australian's freedom of information request to release details of the research undertaken by Canberra academic Samantha Cromptvoets as part of a series of contracts costing the department just over a million dollars.

Dr Cromptvoets, who describes herself on her Twitter account as "sociologist, feminist, taxidermist", has qualifications in psychology, sociology, and organisational development and has a PhD from ANU for a thesis about the experiences of women undergoing breast cancer treatment.

Her services have been sought by Defence as part of a response to change Australian Defence Force culture following a series of reviews and investigations that highlighted sexual abuse and unethical behaviour among ADF personnel.

Since 2013, Defence has awarded Dr Cromptvoets's personal company contracts worth about \$3.6 million to undertake social research, organisational psychology and cultural studies relating to the military and the department's public servants.

One of her earlier 2015 research contracts, called "Special Operations Command Cultural Interactions", has led to disclosure by soldiers about war crimes involving Australian special forces in Afghanistan – allegations that last year were referred to the Inspector-General of the Australian Defence Force, who launched an investigation.

But when The Australian sought to obtain a selection of her other reports and research associated with some six contracts awarded, Defence refused.

Defence FOI assessor Tony Corcoran in his refusal letter said Dr Cromptvoets had been engaged for her specialist skills to conduct in-depth longitudinal research studies in cultures and behaviours.

He said the army social research contracts were part of a series of studies that supported work to address "some of Defence's most sensitive and complex social issues".

However regarding the social research, to release "even the titles of the 17 documents at this time let alone the documents themselves would have a deleterious effect on the army's ability to effect ;cultural change in specific problem areas", he said.

"This is because it would shine a spotlight on a specific area where cultural problems exist without a considered way forward being determined to ameliorate the issues."

Mr Corcoran said the two other contracts related to a master study in relation to Defence's major cultural change program for both the ADF and the Australian Public Service, while the third dealt with culture and identity of APS in Defence.

He said public interest was not a viable argument to release the documents because doing so could "result in increased public speculation about the various cultural issues in Defence which would have a substantial adverse effect on Defence's ability to manage its personnel".

Efforts to contact Dr Cromptvoets were unsuccessful yesterday.



# Associations & Organisations

## **RAA Regimental Fund**

SO2 HOR School of Artillery  
Bridges Barracks, Puckapunyal, VIC 3662  
Phone: (03) 5735 6267  
Mob: 0407 140 036  
Email: [gary.down@defence.gov.au](mailto:gary.down@defence.gov.au)

## **RAA Historical Company**

P O Box 171 Cremorne Junction, NSW 2090

**Web:** <http://www.artilleryhistory.org>

[See Membership Form in Cannonball]

*CANNONBALL (OFFICIAL JOURNAL)*

*AIRBURST (ELECTRONIC NEWS LETTER)*

## **Australian Army Artillery Museum & Artillery Display Puckapunyal**

Peter Armstrong, Curator  
Australian Army Artillery Museum  
Albury Wodonga Military Area  
Gaza Ridge Barracks  
South Bandiana, VIC 3694  
Mob: 0407 469 018  
Email: [peter.armstrong1@defence.gov.au](mailto:peter.armstrong1@defence.gov.au)

Major Colin Wardrop, Manager  
Email: [colinwardrop@bigpond.com](mailto:colinwardrop@bigpond.com)  
Mob: 0409 505 649

*BATTERY GUIDE (NEWSLETTER)*

## **RAA Historical Society WA (Inc)**

President - Bruce Campbell  
Phone: (08) 9221 2494 (Bus)

Secretary - Stan Davies  
P O Box 881, Claremont, WA 6910  
Mob: 0418 903 722  
Email: [info@artillerywa.org.au](mailto:info@artillerywa.org.au)  
Web: [www.artillerywa.org.au](http://www.artillerywa.org.au)

*TAKE POST (QUARTERLY NEWSLETTER)*

## **4 Field Regiment (Vietnam) Association**

Peter Bruce

P O Box 293, Lake Cathie, NSW 2445

Phone: (02) 6585 7342

Mob: 0419 349 317

Email: [pjbruce8@bigpond.net.au](mailto:pjbruce8@bigpond.net.au)

## **7 Field Regiment Association**

President - Major Steve Flower

Secretary - John Balfour OAM

Email: [jba30607@bigpond.net.au](mailto:jba30607@bigpond.net.au)

Mob: 0418 412 354

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*THE BIG GUN (NEWSLETTER)*

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*GUNLINE (NEWSLETTER)*

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*'THE CUSTODIAN' (NEWSLETTER)*

Editor - Harry Lynas

### **Fort Scratchley Historical Society**

Web: [www.fortscratchley.org.au](http://www.fortscratchley.org.au)

### **Royal Artillery**

Web: [www.army.mod.uk/artillery/artillery.aspx](http://www.army.mod.uk/artillery/artillery.aspx)

### **Royal Artillery Association**

Web: [www.theraa.co.uk](http://www.theraa.co.uk)

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**'Australian Artillery Association'**

**Website**

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**Email**

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**'Royal Australian Artillery Historical Company'**

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as at 6th November 2017

(Note: Rank as listed when joined fund)

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BRIG CD Furini	CAPT NS Clark	LT BJY Gordon
COL DM Edwards	CAPT CC D'Aquino	LT SG Green
COL NJ Foxall	CAPT EA Dempster	LT EJ Grigg
COL DJ Hill	CAPT NW Dickeson	LT NC Harrison
COL MRC Kennedy	CAPT MJ Fensom	LT LP Hurley
LTCOL RJ Alsworth	CAPT S Frewin	LT DJ James
LTCOL RJ Crawford	CAPT TAH Gommers	LT TM Linley
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WO1 DJ Sinclair  
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WO2 JP Bourke  
WO2 M Broughton  
WO2 BB Bushell  
WO2 MJ Castek  
WO2 BM Colles  
WO2 BT Donaldson  
WO2 AG Fleming  
WO2 MP Fountain  
WO2 CP Grant  
WO2 AJ Hamilton  
WO2 JA Hill  
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WO2 MR Morante  
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SGT CJ Haire  
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BDR DS Allen  
BDR AM Bamford  
BDR BP Beach  
BDR JK Brennan  
BDR GM Clark  
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BDR ECR George  
BDR RJ Gould  
BDR JR Hodge  
BDR PA Inger  
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BDR LE McKenna  
BDR MT O'Connor  
BDR DM Thornell  
BDR JP Van Loon  
BDR JM Walsh  
LBDR SJ Ayris  
LBDR BE Elford  
LBDR PF Fiannaca  
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LBDR CG Gibb  
LBDR MD Jackson  
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LBDR NE Russell  
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MAJ P.J. Watkins  
MAJ P.R. Widelewski  
CAPT M.A. Pasteur (AAAvn)  
CAPT A. Ridgeway  
CAPT P.J. Smith  
CAPT P. Wertheimer  
LT J.F. Henry  
LT S.L. Shepherd  
WO1 D.G. Annett  
WO1 D.W. Bowman  
WO1 K.J. Browning \*  
WO1 L.A. Cooper  
WO1 B.A. Franklin  
WO1 G. Hampton  
WO1 E. Harkin  
WO1 G.A. Jebb  
WO1 M.I. Johnson  
WO1 M.A. Johnston  
WO1 T.L. Kennedy  
WO1 D.R. Lehr  
WO1 P.A. Matthysen  
WO1 D.J. Sinclair  
WO1 B.J. Stafford  
WO1 R.J. Thompson  
WO1 M. Vandyke<sup>+</sup>  
WO1 P.T. Washford  
WO1 C.F.J. Watego  
WO1 G.J. Webster  
WO2 D. Bannerman  
WO2 M. Broughton  
WO2 P. Carthew  
WO2 M.R. Dawson  
WO2 R.T.B. Hay  
WO2 J.J. Hennessy  
WO2 D.G. Ogden \*  
WO2 A. Pavlovich  
WO2 R.N. Skelton  
SSGT R.W. Morrell  
SSGT E.J. Paddon  
SGT J. Nield  
SGT G.V. Saint  
SGT D.H. Wood  
Mr N. Fox  
Mr C.J. Jobson  
Mr B.C. Kyrwood  
Mr L.A. Manning  
**Note (See \*):**  
COL M.C. Crawford, COL E.D. Hirst, MAJ A.J. Balsillie and MAJ A.H. *Smith have paid three life subscriptions*  
LTGEN B.A. Power, MAJGEN T.R. Ford, MAJGEN J.P. Stevens, MAJGEN J.D. Stevenson, MAJGEN J. Whitelaw, BRIG G.W. Finney,

BRIG R.K. Fullford, BRIG N.D. Graham, BRIG J.R. Salmon, COL A.R. Burke, COL A.D. Watt, LTCOL J.E. Box, LTCOL J.H. McDonagh, LTCOL D.M. Murphy, LTCOL G.K. Phillips, MAJ J.B. Evans, MAJ G.D. Metcalf, WO1 K.J. Browning, M. Vandyke and WO2 D.G. Ogden *have paid two life subscriptions.*

#### **Associations**

RAA Association (Tas)  
RAA Association (Qld)  
RAA Association (North Qld)  
RAA Association (Vic)  
RAA Association (SA)  
RAA Association (NSW)  
RAA Association (NSW) - Newcastle Branch  
105th Field Battery Association  
107 (Field) Battery Association  
Fort Lytton Historical Assoc  
RAA Retired Officers of South East Queensland  
Australian Air Defence Artillery Association  
13th Battery Association  
Coast Artillery Association

#### **Deceased Benefactors**

Sir Roden Cutler  
MAJGEN T.F. Cape  
MAJGEN G.D. Carter  
MAJGEN P. Falkland  
MAJGEN R.G. Fay  
MAJGEN G.J. Fitzgerald  
MAJGEN J.D. Stevenson (see note)  
MAJGEN J. Whitelaw<sup>+</sup> (see note)  
BRIG R.K. Fullford<sup>+</sup> (see note)  
BRIG A.G. Hanson  
BRIG R.Q. Macarthur-Stranham  
BRIG I.J. Meibusch  
BRIG J.R. Salmon<sup>+</sup> (see note)  
BRIG D.D. Weir  
COL M.C. Crawford<sup>+</sup> (see note)  
COL J.H. Humphrey  
COL M.J. Kingsford  
COL G.M. Salom  
LTCOL R.H.E. Harvey  
LTCOL K.W. MacKenzie  
LTCOL P.L. Overstead  
LTCOL G.K. Phillips  
LTCOL G.W. Tippets  
MAJ M. Dawson  
MAJ J.B. Evans (see note)  
MAJ A.A. Thwaites  
CAPT A.E. Sheridan  
WO1 K.M. Cossart

## RAA GUNNERS FUND – NEEDS YOUR SUPPORT

### Introduction

The RAA Gunners' Fund is designed to provide a source of funds that can be utilised for the benefit of all Gunners regardless of rank. One of the most important uses for these funds is to support requests from RAA units and organisations to assist in the ongoing preservation and promotion of Regimental heritage. Other worthy goals that the Fund supports includes, but is not limited to:

- support RAA extra-Regimental activities,
- encourage RAA Officers and Soldiers who excel in their profession,
- support activities that benefit RAA personnel, not funded by public money,
- safeguard, maintain and purchase items of RAA Regimental property,
- preserve RAA heritage and history, and
- record RAA Operational service since deployments began in the 1990s.

The Regimental Committee cannot achieve these worthy goals without the support of individual members and organisations within the Gunner community. All ranks are encouraged to make a financial contribution to the Gunners' Fund; be it fortnightly or annual contributions or by becoming a life member. Whilst a '*Life Subscription*' absolves the subscriber from being asked for any further financial contribution they are welcome to make additional contributions to further support the Royal Regiment. The list of life subscribers is published in the Liaison Letter and they receive a complimentary copy.

### Recent Projects

Over the years the Gunners' Fund has supported a wide range of requests for financial support, including some of which are ongoing such as the maintenance of the AIF and Mount Schanck Trophies. It is worth noting that the sums of money requested from the Fund are generally significant and therefore can only realistically have any chance of being supported if each and every one of us contribute to the Fund. Projects supported by the Fund include the allocation of:

- \$500 to 107 Battery for 50th Anniversary celebrations;

- \$500 each to 101 Battery and 103 Battery for 100th Anniversary celebrations;
- \$2,500 to 8th/12th Medium Regiment to assist to build a Regimental Memorial to coincide with the Regiment's 30th anniversary celebrations;
- \$500 to 131st Surveillance and Target Acquisition Battery to improve the Battery memorial and add a plaque to mark the 50th Anniversary of the unit and its name change from 131st Divisional Locating Battery;
- \$1,000 to 1st Field Regiment for 50th anniversary celebrations;
- \$1,000 to 4th Field Regiment for 40th anniversary celebrations;
- \$1,500 for shield to be held by winner of Mount Schanck trophy;
- \$1,000 to 1st Field Regiment for 50th anniversary of 105th Field Battery, 50th anniversary of commitment to Malaya and 40th anniversary of commitment to South Vietnam;
- \$1,000 to complete the Major General T. Cape Bequest to the Regimental officer's mess;
- \$2,500 towards the Anti-Aircraft and Air Defence Memorial at 16th Air Land Regiment;
- \$700 for 53 Battery World War Two Battery Flag restoration and preservation;
- \$600 for Annual Gunners (RAA) Fund Badge Draw prizes;
- \$450 for Bombardier and Gunner of the Year – 2016;
- \$6000 to send the Bombardier and Gunner of the Year 2016 to the UK for professional development with the Royal School of Artillery and local artillery units;
- Presentation of a framed miniature RAA Standard with supporting service history to those who have achieved of 40 years service;
- On-going Royal Military College Graduation Artillery prize; and
- Annual Regimental Officer, Warrant Officer and Sergeant farewells.

Subscriptions – See the subscription form on the next page for details.

## RAA Gunners' Fund - Subscription Form

### Categories

Rank	ARA Member	ARA Member	Reserve Member	All Members
	<i>Fortnightly Rate</i>	<i>Annual Rate</i>	<i>Annual Rate</i>	<i>Life Membership</i>
MAJ and above/WO1	\$2.00	\$52.00	\$26.00	All Ranks \$260
CAPT, WO2/SGT	\$1.50	\$39.00	\$19.00	
LT/GNR/LBDR/BDR	\$1.00	\$26.00	\$13.00	

### Payment Method

(Please tick)

- Enclosed is my/our subscription to the RAA Gunners' Fund
- Paying by **cheque**: Please return this form with a cheque made payable to 'RAA Regimental Fund' and addressed to: MAJ Gary Down, SO2 HOR, School of Artillery, Bridges Barracks, Puckapunyal VIC 3662.
- Paying via **Direct Debit**: The account details of the RAA Regimental Fund are as follows:

**Financial Institution:** Australian Military Bank

**Account Name:** RAA Gunners' Fund

**BSB:** 642 170

**Account Number:** 526805

**Reference:** Must include Initials and Surname and the word 'Subscription'

\* **Note:** A copy of this completed subscription form is to be forwarded to MAJ G M Down (SO2 HOR) to enable the issue of an RAA key ring. Email: [gary.down@defence.gov.au](mailto:gary.down@defence.gov.au)

**PMKeyS No:** \_\_\_\_\_ **Regimental No (if applicable):** \_\_\_\_\_

**Rank/Initials:** \_\_\_\_\_ **Unit:** \_\_\_\_\_  
(BLOCK letters please)

**Surname:** \_\_\_\_\_  
(or Ancestral)

**Address:** \_\_\_\_\_

**P/Code:** \_\_\_\_\_

**Email Address:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_ **Mobile:** \_\_\_\_\_

### Commence Subscription Details

**Amount:** \$ \_\_\_\_\_

**Effective Date:** \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_



# Royal Regiment of Australian Artillery Regimental Shop



## RAA Items

- Silk ties
- RAA berets and badges  
(officers and ORs)
- RAA socks
- RAA cuff links
- RAA caps

## General Items

- Stubbie holders
- Polo shirts
- Sports wear (basic)

## Field Equipment

- Knives and tool selection
- Alice pack frames
- Dive bags
- Hydration packs
- Jet biloers
- Goggles
- Gloves
- Torches
- Sleeping mats

For Information and Orders:  
School of Artillery, Bridges Barracks

Contact Details:  
Email: [RAACorps.Shop@defence.gov.au](mailto:RAACorps.Shop@defence.gov.au)



RAA berets and badges  
(officers and ORs)  
RAA badge \$7.00/\$10.00  
RAA beret \$20.00

RAA caps \$13.00

RAA ties \$35.00

RAA cummerbund \$40.00

RAA scarf \$35.00

RAA cuff links \$20.00

RAA socks \$10.00

RAA Polo shirts \$30.00  
RAA Jumpers \$50.00

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 **Royal Regiment of Australian Artillery**  
**Catalogue**

Contact Details:  
Email: [RAACorps.Shop@defence.gov.au](mailto:RAACorps.Shop@defence.gov.au)

# We Will Remember Them



## Anti Aircraft & Air Defence Memorial Woodside Army Barracks, South Australia

### Support the Memorial Upgrade

The Anti Aircraft and Air Defence Memorial is located at Woodside Barracks South Australia, and honours the men and woman who served with, or in support of, Air Defence Units during war and peace.

Constructed in 2009 the memorial is positioned just inside the main gate and sits proudly in front of the Regiment's flagpole. Constructed of concrete and black marble it bares the inscription "Lest we Forget" with an image emblazoned on the front depicting two Lewis gunners from the 14<sup>th</sup> Australian Anti Aircraft Battery during the defence of Darwin in February 1942. The image was taken from a famous painting by Roy Hodgkinson.

Over the years there has been some deterioration of the landscaping surrounding the memorial and the Association is embarking on a project to upgrade the area around the site.

The Association plans to pave around the memorial and border the site on three sides with a low wall. The improvements will create a place of reflection and provide sufficient space for the Regiment to mount a Catafalque party and carry out other drill during memorial services. The wall will be a convenient height to sit, rest and reflect on the deeds accomplished by our predecessors and the outer surrounds of the site will be bordered by trees that will provide some protection from the elements and give a feeling of solitude and peace.



*The memorial in its current condition showing the poor state of the surrounding landscaping.*



*An artist's impression of the upgrade work*

**We need your help** – we are calling on supporters to provide the funds to accomplish the upgrade. Your support will be recognised with an engraved paver and laid near the memorial. This is an exclusive and limited offer for people and organisations to contribute to the landscaping of the memorial. Due to the restricted size of the area there are only a certain amount of pavers available.

To order your paver, please complete and return the order form  
or visit our online store at: [www.aadaa.asn.au/store](http://www.aadaa.asn.au/store).



**AUSTRALIAN AIR DEFENCE  
ARTILLERY ASSOCIATION**

A BOND NEVER FORGOTTEN  
[www.aadaa.asn.au](http://www.aadaa.asn.au)





# We Will Remember Them

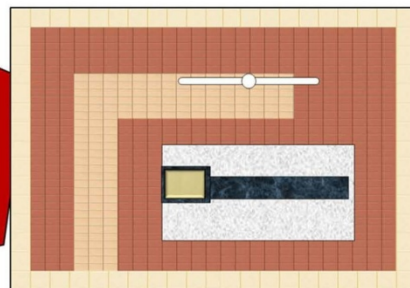


## Anti Aircraft & Air Defence Memorial

Woodside Army Barracks, South Australia

### Make Your Mark!

Take up this exclusive and limited offer to display your pride in Air Defence.



Rojo pavers will cover the bulk of the area, with sand pavers used to border the memorial and provide a path to the Regiment's flagpole.

Choose your preferred colour

Sand	Rojo

Refer to the layout diagram to see where the colours are used.

**Single Paver**  
**\$55.00**

Have a single paver engraved as a permanent record of your service or simply name your business as a permanent record of your valued support.

3 lines of text are available, up to 16 characters per line.

**Double Paver**  
**\$105.00**

Use a double paver to recognise you and your family, say a few words or make a dedication.

6 lines of text are available, up to 14 characters per line.

**Large 300 x 300**  
**\$250.00**

This large 300 x 300 paver is ideal for Unit or Military logos and will border the memorial.

Please contact us to discuss your requirements.

To order your paver, please complete and return the order form or visit our online store at: [www.aadaa.asn.au/store](http://www.aadaa.asn.au/store).



**AUSTRALIAN AIR DEFENCE ARTILLERY ASSOCIATION**

A BOND NEVER FORGOTTEN  
[www.aadaa.asn.au](http://www.aadaa.asn.au)





# Memorial Paver Order Form

Name:	Phone:
Address:	State:      Postcode:
Email:	

<b>SINGLE PAVER – 16 CHARACTERS PER LINE</b> Please print clearly using ALL CAPITALS.	\$55	Please indicate your colour* <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>																																																
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<b>DOUBLE PAVER – 14 CHARACTERS PER LINE</b> Please print clearly using ALL CAPITALS.	\$105	Please indicate your colour* <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>																																										
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<b>Payment Method</b>			
Money Order <input type="checkbox"/>	Cheque <input type="checkbox"/>	Direct Deposit <input type="checkbox"/>	Cash <input type="checkbox"/>
Cheques and Money Orders payable to: <b>Australian Air Defence Artillery Association</b> Post to: AADAA Villa 9/4 Fradd Road ANGLE VALE SA 5117		<b>Direct Debit</b> BSB: <b>085180</b> Acc #: <b>828503441</b> Ensure your name is entered as Payee, and reference to a paver purchase.	
For other paver configurations, give us a call on 0437 008 569 or email <a href="mailto:memorialpaver@adaa.asn.au">memorialpaver@adaa.asn.au</a> Other configurations include triples, 300cm x 300cm singles, and inclusion of certain logos such as the Rising Sun, Unit Logos etc. Call us to discuss your requirements.			



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4	Director Royal Artillery Liaison Letter – 24 November 1954+
5	Director Royal Artillery Liaison Letter – February 1955+
6	Director Royal Artillery Liaison Letter – 31 May 1955+
7	Director Royal Artillery Liaison Letter – 30 September 1955#
8	Director Royal Artillery Liaison Letter – 20 January 1956+
9	Director Royal Artillery Liaison Letter – 18 June 1956+
10	Director Royal Artillery Liaison Letter – 26 November 1956#
12	Director Royal Australia Artillery Liaison Letter – 24 February 1957+
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33	Royal Australian Artillery Liaison Letter – March 1977#
34	Royal Australian Artillery Liaison Letter – September 1977#
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64	Royal Australian Artillery Liaison Letter 2005 – Spring Edition+
65	Royal Australian Artillery Liaison Letter 2006 – Autumn Edition+

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82	Royal Australian Artillery Liaison Letter 2014 – Spring Edition+
83	Royal Australian Artillery Liaison Letter 2015 – Autumn Edition+
84	Royal Australian Artillery Liaison Letter 2015 – Spring Edition+
85	Royal Australian Artillery Liaison Letter 2016 – Autumn Edition+
86	Royal Australian Artillery Liaison Letter 2017 – Autumn Edition+

### **Australian Gunner Magazine**

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1	Australian Gunner – Vol. 1 No. 1*
2	Australian Gunner – Vol. 1.No. 2*
3	Australian Gunner – Vol. 2 No.1 – September 1979*
4	Australian Gunner – March 1980*
5	Australian Gunner – December 1980*
6	Australian Gunner – May 81*
7	Australian Gunner – November 81*
8	Australian Gunner – The Official Journal of the Royal Regiment of Australian Artillery – March 1997*

### **Miscellaneous Regimental Publications**

<i>Ser</i>	<i>Title</i>
1	DARTY Personnel Notes – December 1969#
2	Royal Australian Artillery Personnel Notes – 1978#

**Notes:**

\*Copy held by SO to HOR

# Copy held by Puckapunyal Area Library

+ Copy held by HOR at School of Artillery

@ Not available to HOR at School of Artillery



# RAAHC

## NEEDS YOUR SUPPORT



The Royal Australian Artillery Historical Company  
Needs Your Help to Support the Preservation and Promotion of  
Artillery History and Heritage and the Management of the Regiments  
Collection Nationally



### How Much Does it Cost?

\$30.00 (1 year), or \$120 (5 years)

All Gunners and friends of the Regiment are invited to join



### What You Get In Return?

RAA Liaison Letter and Cannonball twice annually

Free access to the Artillery Museum (temporarily closed) and most other  
museums in the Australian Army Museum network

Use of the Artillery Museum's library resources

Personal satisfaction in supporting the preservation of Artillery heritage



### How Does The Company Benefit?

They can add your weight to the membership numbers when seeking  
grants and other assistance from public and non-public sources

Your subscription assists with ongoing administration costs



### How Do You Join?

A membership form can be found in this publication

Submit a form and start supporting a very worthwhile cause



**RAAHC THANKS YOU FOR YOUR SUPPORT**