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Land Range Safety

Serving our Nation

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Foreword



I welcome this special edition of *Smart Soldier*, dedicated solely to our ongoing work in improving our approach to Land Range Safety. Led by the team at the Combined Arms Training Centre, this work is essential if we are to ensure our live fire training is to remain safe, relevant and easy for our practitioners to design and implement.

We've had tremendous support from across Army as we've turned our minds to rationalising our range doctrine and safety procedures. I'm a big fan of this 'federated approach' to developing and revising our doctrine - bringing small communities of experts together from across Army to capture and record best practice in what is a critical aspect of our training. I also appreciate the considerable feedback we've received from our brigades and training centres as we look to improve new initiatives such as our annual recertification test. I appreciate that our first attempt at this test was far from perfect - we're listening and I think we're well on the way to having a much more user friendly assessment in place for next year. Please continue to work with us as we improve and refine these products.

I've also been pleased with the early signs of a mindset to share 'near miss' incidents through [story boards](#) on our [Range Safety Portal](#). It's so important that we learn from incidents and near misses and the growing collection of story boards on the Range Safety Portal serve as an opportunity for all units across Army to learn where common mistakes are being made and implement measures to prevent them in their own training.

I commend this special edition of *Smart Soldier* to you and I thank you for your ongoing cooperation and support in this vital area.

B.N. James

Brigadier

Director General Training and Doctrine

Land Range Safety improvements and initiatives



In September 2017 Commander Forces Command, Major General McLachlan, released Directive 59/17 to coordinate the conduct of the short and long term adaption of Land Range Safety (LRS) and the implementation of enhanced range safety policy, practices and procedures that support the training needs of Army and joint capabilities.

The Combined Arms Training Centre (CATC) was given the lead responsibility to coordinate cross command and joint collaboration to ensure all training needs are considered and best practices adopted. As part of this direction CATC established the LRS Taskforce, a virtual taskforce made up from elements of CATC, Army Knowledge Management, Army Headquarters, Headquarters Special Operations Command, Forces Command, Tri-service and relevant agencies under the auspices of the LRS Working Group to ensure adaptive improvement of live fire range practices.

The taskforce has concentrated on improving the following:

Policy. Development of a doctrinal hierarchy that creates alignment between elements of the Combined Arms Team.

Qualifications. Implementing best practice in range safety training with both initial employment and mid-career components and a system to capture this experience.

Modernisation. Additional means to undertake high quality and realistic training.

Training and assurance. Development of an assurance and reporting culture that reflects best practice in military aviation where reporting of near misses is applauded and retraining is actively sought by participants.

ICT. Making doctrine more accessible through the DPN and UNCLAS means, including development of a Range Safety Portal populated with doctrine (enhanced with digital media), briefs in range best practice and near miss information.

There is an aggressive timeline for the short and long term adaption of LRS and the implementation of enhanced range safety policy, practices and procedures. The taskforce has already implemented a number of initiatives to improve LRS including:

Establishment of a new Range Safety Portal. A central depository of all range related information including newly developed; directives, doctrine, blended learning concurrency tests, mandatory training aids and other safety information.

Development of a range safety assurance capability. This is essentially a two person team that will travel to brigade locations to provide advice on updates to LRS and best practice with regard to the conduct of live fire activities.





The creation of a future LRS policy hierarchy. This is currently being finalised with stakeholder input to be put into practice no later than 30 September 2018 with the following changes:

- Creation of a new lead publication LWP-G 7-3-0 ADF Range Safety Orders General which will include requirements common to all ranges. Development of the environmental documents LWP-G 7-3-(1-5), (Dismounted, Mounted, Indirect, GBAD and Demolitions), this will include only that detail that is specific to each environment.
- Two types ranges – Permanent and Manoeuvre. Development of qualifications and a set of guidelines that will define what currency and competency means for the different ranges, qualifications and ranges practices.
- Removal of duplication and unnecessary distinctions between dismounted and mounted range appointments.

- Establishing direct linkage between range complexity, risk tolerance and readiness requirements.

Development of Urban Live Fire policy and procedure.

- New doctrine will reflect the need for dry/blank/simulated/man-marking progression throughout the force generation cycle in the build-up to live firing for confidence measures near the completion of the 'Readying' phase.
- The FORCOMD G5 is in the process of developing austere purpose built urban ranges.

Range Safety Blended Learning

- Creation of a Director of Practice (DPRAC) Module for Senior Range Instructor (SRI) course and Combat Officers Advanced Course. Also a blended learning package for those outside this continuum and refresher training.



- Improve the LRS re-certification tests – currency tests were implemented in January 2018 and there is an ongoing effort to improve the delivery and feedback from this product. The desire is to incorporate the test into an LRS assurance tool.
- Update Weapons Terminal Effects media product with development of a Weapons Terminal Effects blended learning product including awareness of the penetration, ricochet and blast consequences of weapon systems to be used on RMC-A (i.e. RMC-D, ARTC and LWC) and CATC courses.
- Module within LWP-G 7-3-0 ADF Range Safety Orders General for range appointments other than DPRAC. Adapt all aspects of the ADF range qualification continuum to blended learning – starting with the SRI and followed by RMC-A courses.

Land Range Safety assurance tool: Patriot Excalibur (PEX). PEX is a USAF airworthiness tool currently utilised by 16 Avn Bde to record qualifications,

experience and currency. The LRS requires a system where qualifications, experience, and currency can be recorded and tracked to assist OCs and COs when selecting suitable range appointments.

Participation in appropriate live fire activities in the applicable phase of the force generation cycle is a crucial part of maintaining Army capability and readiness. The Australian Army LRS procedures are among the best in the world. We are being very careful to ensure that we retain the positive aspects of these procedures whilst simplifying their employment. Most of the enhancements currently being undertaken are to make the extant procedures easier to interpret and apply and as such, we are endeavouring to not only improve safety but also reduce administrative burden. In this way the Australian Army will improve capability in the most efficient and effective manner whilst ensuring the safety of all our personnel.

Principles of weapon safety update

THINK

The principles of weapon safety...do you know them?

Do you or have you thought about them recently? Well, if you don't or haven't – you are not alone. A recent survey conducted on behalf of the Commandant Combined Arms Training Centre (COMDT CATC), as the ADF WHS Advisor Small Arms Training, revealed that of the 600 Service personnel asked not one person could confidently name and explain the principles of weapon safety.



From this analysis, the COMDT CATC decided to simplify the principles to ensure that these fundamental safety principles would be easy to remember, learn and then recall. The aim of this exercise was not just to come up with a memory jogger but to ensure that the safe handling of weapons message was instilled in trainees at ab-initio training and then reinforced in all subsequent weapon training and live fire activities. Remember, the safe handling of your weapon is the first building block to conduct any small arms activity regardless of complexity.

The new principles have been encapsulated in the acronym **'THINK'**. The updated principles of weapon safety are:

Treat every weapon as if it is loaded. Never assume that a weapon is unloaded. If the state of the weapon is unknown conduct safety precautions to ensure the weapon state is identified. Failure to do so may result in the weapon discharging; causing damage to equipment, injury, death or compromising security.

Handle every weapon with care. Though in-service weapons are robust, the operator must be mindful that the safety catch could be set to fire and the trigger could be accidentally squeezed by the operator's fingers or equipment, especially when slung or drawing a holstered weapon. Many small arms will also be fitted with various ancillary-sighting systems and devices and any undue treatment may affect the zero of the weapon, damage attachments or damage other surrounding equipment.

Identify your target before you engage. Operators are to make positive identification of the threat they intend to engage. Engage targets only in accordance with applicable rules of engagement or other orders.

Never point your weapon at anyone you do not intend to engage. Muzzle awareness refers to the operator being aware of the direction in which the muzzle is pointing at all times. Pointing the weapon at someone who is not a threat can be perceived as a threat. Personnel are not to accept a weapon being pointed at them except during controlled force-on-force exercises.

Keep your weapon on safe and finger off the trigger until you intend to engage. In-service weapons are reliable and safe. Weapons will not discharge if set at SAFE and will not discharge if the trigger is not squeezed. Operators are to check the safety catch regularly. Operators are not to play with the safety catch as a means of checking. Operators are to keep their finger off the trigger outside of the engagement sequence.

The COMDT CATC has directed that **'THINK'** be included in all Small Arms Weapons publications, starting with the soon to be released and updated:

- LWP-G 7-4-12, 5.56 mm AUSTEYR Family of Weapons and
- LWP-G 7-4-13, 5.56 mm Enhanced F88 Family of Weapons

Range training

A review of range safety doctrine reveals the level of detail contained within such publications is growing. The bulk of the growth is a result of lessons learnt from: the introduction of new technology, improved capabilities, new training techniques and procedures, feedback from users and units, operational requirements, working with coalition partners and investigations into incidents.

To ensure range doctrine remains relevant, it is regularly reviewed and updated via user group forums, introduction of new techniques and or equipment, training activities, meetings with coalition partners or experience/

feedback from range activities and/or users. Although this process has served Army well in the past it, is no longer keeping up with the rate of change and innovation. We require a new way to train which must be adaptive and capable of supporting the ever increasing rate of technological and tactical change.

Supporting this new way to train is a new way to teach, collect and pass on information and skills. Also identified was the need for a solid mechanism of review to ensure that range preparations and delivery of range training is robust and safe in a world where complexity and change are the norm. Accordingly, change was necessary.



assurance

The change was initiated by the release of FORCOMD Directive 59/17 'Land Range Safety' (LRS) on 5th September 2017.

The aim of this directive is coordination and implementation of enhanced range safety policy, practices and procedures that support the training needs of Army and Joint capabilities. This directive is the main effort for the LRS (formally Small Arms Policy and Safety) team.

An early implementation was the formation of an LRS assurance team – although only manned by two personnel for 2017, the team has been staffed with very experienced and qualified personnel. The assurance team has been

directed to conduct range assurance visits to formations and units that will:

- review the planning administration process and compare it with best practice as per current doctrine.
- review the training continuum to ensure the unit training program will deliver the planned range activities progressively and safely.
- provide a learning opportunity for the planning and implementation staff via feedback, mentoring and direction.
- identify doctrine improvements.
- identify range course improvements to ensure range training is contemporary and relevant.





- support units by providing a LRS Range Portal that will contain the latest updates and improves.
- conduct assurance reviews post significant incidents.

The assurance team, in consultation with formations, will determine activities which undergo an assurance review for each year. There will also be a small number of short notice visits. These will occur where it has been identified that an assurance review may be beneficial due to the nature of the activity and its associated risk profile.

It is important to realise that an assurance review is not an audit. Information gained in the course of the review will be used to improve doctrine, procedures and training outcomes only. The team will not recommend investigations into range planning or conduct – the assurance team's focus is on developing and fostering a reporting culture that will identify weaknesses and improvements.

The assurance function is not an opportunity to transfer responsibility for range planning and conduct, as the team will not fill range appointments nor will they complete a unit's range preparation. Those functions will always remain with the conducting unit/formation. Assurance reviews do not guarantee that the training will be safe. The safe conduct of any activity lies with the standard of training and capabilities of the participants and adherence to safety doctrine.

Safety is always the responsibility of the range user.

One capability the assurance team is working hard to deliver is the mentoring of range staff. After the assurance review, the team aims to provide a qualified and experienced Warrant Officer who will attend range activities in order to mentor the range staff. This will provide an opportunity to pass on valuable and practical advice to assist younger and less experienced personnel to ensure that range activities are conducted safely.

Another capability in development is the introduction of a currency management profile system that will assist units when planning and implementing training. The development of this auditable currency management framework will allow LRS staff to monitor, track and improve currency management across the ADF. These new systems will then feed into and simplify the re-certification process and allow formations/units to self-monitor in order to identify potential issues and ultimately improve the quality of assurance reviews.

The LRS assurance function is about building robust and professional working relationships with units and their key staff. The team's aim is to provide a review of the processes, training and conduct necessary to get a unit to and on the range confident that their practice will be conducted safely whilst still meeting the units' mission. As such, the LRS team will also learn from units – these lessons will become inputs on the LRS Range Portal to inform all range users and, where necessary, also influence doctrine updates.



SOCOMD Info & Fitness App

Special Operations Command (SOCOMD) has released the 'Information and Fitness' (SOFIT) application. It is designed to provide a wide range of information to prepare applicants (both military and civilian) interested in service with SOCOMD. The application offers unclassified information about the roles and tasks of SOCOMD units as well as mental, physical, and nutritional guides for selection preparation.

What can SOFIT do?

The SOFIT application has four main functions (tabs):

Home Tab Prompts the individual to enter key dates in order to launch their training program.

Learn Tab Provides information on SOCOMD roles, units, selection criteria, and FAQs.

Apply Tab Provides information on the SOCOMD application process for serving and non-serving members.

Prepare Tab Allows individuals to access personalised training programs for the Commando and Special Air Service Regiment Selection Courses, respectively. You simply insert your Special Forces Entry Test and Selection Course dates and the application superimposes a tailored training program to align with those dates. This tab also provides nutritional and mental preparation guides along with a link to the Special Operations Strategic Plan.

Is it just for SOCOMD applicants?

No. Anyone can access the application, obtain a broad understanding of opportunities and capabilities, and access the preparation guides. The 'Prepare Tab' can be accessed regardless of attempting selection – a great tool for any one who wishes to use the training, nutritional, and mental preparation guides to improve their soldiering.

Where is it available?

The SOFIT application is free of charge and is available from the Australian Apple Store for iOS devices. For those with Android devices, SOCOMD hopes to have the application released in that format by mid 2018.

SOCOMD Info & Fitness App



SOFIT



SOCOMD Info & Fitness
(SOFIT) iOS App Store



Special Operations
Command Australia
(@SOCOMD)

WTSS: Enabling every soldier to be an expert in close combat

The Weapons Training Simulation System (WTSS) is a vital capability that supports the development and maintenance of Foundation Warfighting Skills. The 1 RAR 'Combat Shooting Cell' has provided the following information detailing the 'why' and 'how' the WTSS capability is utilised within the battalion.

'The WTSS enables soldiers to perfect every marksmanship and combat shooting principle prior to live firing - irrespective of weapon system'.

WO1 Michael Reynes, RSM 1 RAR.

What is WTSS? The Weapons Training Simulation System (WTSS) is a state-of-the-art facility that trains soldiers to be expert in close combat. When employed effectively, it empowers soldiers to be

more potent and precise (lethal) than their potential adversaries. The WTSS is the only training facility that can replicate realistic and challenging battlefield targets, geography and conditions.





Why employ WTSS?

- It is the only training facility that can enable the comprehensive training of soldiers in marksmanship and combat shooting principles. Indeed, WTSS is the only training facility that provides detailed, diagnostic feedback on soldier application of these principles. While the recoil on each weapon system is less than what is experienced firing live ammunition, it is sufficient to perfect recoil management.
- It is the only training facility flexible enough to train soldiers to become expert in other aspects of close combat. These aspects include: PMV operations, other B vehicle tasks, All Arms Call for Fire and Rules of Engagement. The WTSS is the only training facility that can replicate realistic and challenging battlefield scenarios for training soldiers in these essential close combat skills.
- It instils the combat behaviours/ mindset considered essential following a decade of operational experience.
- It develops soldiers into pre-combat veterans. That is, WTSS contributes to developing the physical and cognitive robustness, resilience and skills soldiers need to win in close combat.
- It enables soldiers to optimise the potential of their state-of-the-art equipment. Optimising the potential of Army's cutting-edge equipment will provide our soldiers a competitive edge on the battlefield.
- It allows near resource-neutral training. This means junior leaders can deliver training without the impost of resource requests, lead times and

deconfliction. Time saved can be reinvested in developing dynamic training concepts/scenarios.

- It facilitates the world's-best instructional techniques. These techniques exploit lessons learned in combat and foster an adult-learning environment. These highly effective instructional techniques can be readily applied in the WTSS. Furthermore, WTSS is ideal for training during extreme temperatures. The climate-controlled environment will aid concentration and retention during hotter periods of the year. For example, soldiers can live fire in the cooler mornings and then transition to WTSS.
- It makes training enjoyable. Again, soldiers can conduct some of the most dynamic training possible in the WTSS. You are only limited by your imagination and preparation.
- It is a fundamental component of a broader military shooting/'combatives' program. This program empowers soldiers with a lethality edge from zero metres to the maximum effective range of their weapon systems. It includes:
 - Hand-to-hand fighting (Integrated Infantry Combat).
 - Military Shooting Continuum.
 - Combat Shooting Continuum.
 - Combined Arms field and live-fire training.



How to optimise the WTSS?

- Ensure its use is command driven. That is, driven by COs/RSMs, OCs/CSMs, PL COMDs/SGTs and SECT COMDs/2ICs.
- Learn how to conduct realistic, challenging and dynamic training on WTSS. If you do not know how, find people who do know and get them to show you, then copy them.
- Make the most of your equipment and training facilities. We have some of the world's-best equipment and training facilities. We need to invest the time and effort to ensure we are optimising the potential competitive edge they offer. The WTSS offers the opportunity

to realise the capability potential of the Mk3 Browning SLP, EF88, GLA, F89, MAG 58, M72, 84 mm, 12.7 QCB HMG, PMV Ring Mounts, Claymore and 81 mm Mortar.

- Be willing to self-improve. Embracing WTSS compels a willingness to learn how to become a better trainer. The default approach of 'doing it the way we have always done it' will fail.

In the end, the difference between effective and ineffective training on the WTSS is the skills, motivation and mindset of the instructor(s).



Future updates to Weapon Training Simulation Systems

In consultation with Army Headquarters, [Meggitt Training Systems Australia](#) is undertaking the following projects for the ADF:

Mortar simulators – Delivery to three WTSS facilities to be completed by the end of May 2018.

Enhanced F88 and SL40 (Grenade Launcher Attachment) – Delivering simulators to all WTSS facilities complete by the end of May 2018.

Refreshing all WTSS facilities – Updating to a new standard with the 'Beta' site ready for testing by mid May 18 and the 'Alpha' site ready for acceptance testing early 2019. Once testing is complete, the new suite will be 'rolled out' to all facilities.

Portable WTSS – The PWTSS has been successfully deployed on HMAS *Tobruk* (prior to her decommissioning), HMAS *Choules* in 2017, 12/40 RTR in Tasmania and with 1 RAR to New Zealand and Papua New Guinea. Future deployments are expected to the Regional Force Surveillance Units.

Mobile WTSS - The MWTSS will be an updated, refreshed WTSS in a single screen system utilising High Definition with CryEngine graphics replacing the current marksmanship graphics. This will enable better use of optics and create a more realistic range experience. Additionally, with VBS3 replacing the current collective training graphics, it will enable the rapid development of scenarios to support operational and training objectives.



Supporting training as we fight through Range Safety



In a world where technology advances at a rapid rate, the one constant is change itself. To ensure the Australian Defence Force (ADF) is always at the forefront. We must continually evolve our tactics, techniques and procedures if we are to apply the latest equipment and technology to its maximum effect. Updating our way of doing business is part of the way we will be ready and able to fight the next war.

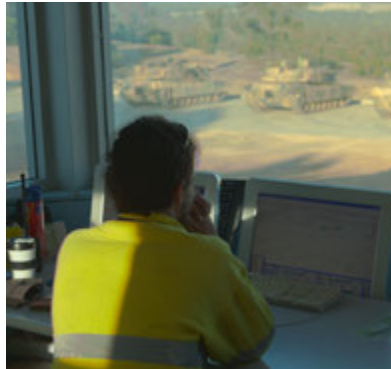
To capitalise on these ongoing technological advances, the ADF has embarked on a number of important modernisation programs such as LAND 125C (Enhanced F88 and ancillaries), LAND 53B (new laser aiming and illumination devices, laser aiming and illumination ranging devices and binocular night vision devices) and LAND 125-3B (Soldier Combat Ensemble). These programs, supported by a more combat

focused Military Shooting Continuum, are just some of the new core enablers that are revolutionising the way we train and will fight.

To make the most of these technologies, significant updates to training are underway. Army is developing a more resilient and combat focused mindset. An example is the new basic drill used with the F88 and Enhanced F88. Rather than have the

weapon horizontal and down range at all times, we now place the weapon in our natural field of view by conducting our drills at the High Ready position prior to adopting the Low Ready position with both eyes open to improve situational awareness when we engage a threat.

Supporting the training updates is the work to introduce simunitions that enable more focused training to occur through force on force activities. Regardless of the change at hand, one thing that remains constant is the requirement for safety; at all times and all levels.



Safety in training is of paramount importance. Assisting the ADF in this area is the Commonwealth Work Health and Safety (WHS) regulator, COMCARE. For many COMCARE conjures up visions of a distant regulator that interferes with

the way we train; however, this is far from the truth. COMCARE is charged with the responsibility to assist Commonwealth bodies conduct their daily business safely or more correctly to reduce the risks to workers so far as reasonably practical (SFARP¹).

So how do we reduce the risk to range operators in SFARP?

The short answer is compliance with doctrine. Range Orders is the user manual for any range activity. This manual not only provides the basics to ensure that the conduct

of all range practices will be safe; it provides the means to design your own practices to meet your unit's mission statement. Range Orders sets out the safety requirements in a systematic manner with chapters devoted to particular topics (ammunition, lasers, medical etc) as well as chapters detailing the Range Categorisation types.

¹ In relation to Workplace Health and Safety the term **reasonably practicable** means that you as an individual have undertaken everything that you could be reasonably expected to have done, to ensure the health and safety of those you are responsible for. This would include considering points such as:

- determining the likelihood of a hazard or the risk concerned occurring.
- the degree of harm that might result from the hazard or the risk.
- what you know, or are expected to know (depending on your area of expertise).
- ways of eliminating or minimising the risk.
- the availability and suitability of ways to eliminate or minimise the risk.

The level of expectation will vary depending on the level of influence you have over the task.
Note: the above is a broad definition - for further guidance, contact the WHS Officer in your unit.

Range Orders does not attempt to include every possible type of range practice. It only deals with the more frequently used, those where users have experienced significant safety issues or the applicable risks require additional treatment to ensure the practice remains safe. Accordingly, there is no regulation that stops users from designing their own range activities as long as they comply with basic rules and principles contained in the publication.

Regardless of the level of complexity, the most important aspect is to ensure that the training is both challenging and safe at all times. To ensure both of these outcomes are achieved, and the activity is not unrealistic or too difficult, the OIC Practice must ensure sufficient time is allocated to plan, review and rehearse the activity, not just complete the administration to get on the range. In addition, wargaming the activity is essential in order to identify and then remedy any gaps in the training levels, capability of the operators and safety staff before the training gets underway.

Range Orders contains further examples of the progression of training. It is a requirement that all safety staff and

operators familiarise themselves with these examples. Remember that there is nothing in Range Orders that stops you conducting training that meets your needs. Just because Range Orders does not mention a particular activity it does not mean it cannot be conducted safely. Training is only limited by your imagination, planning and practice of the training you seek to achieve.



Remember, the safety staff and operators must be qualified, current, competent and capable of conducting the range activity safely. It is a team effort. **Safety is every person's responsibility.** Build your training progressively, develop your training in accordance with your unit mission and end state and above all, do not rush. Always be ambitious but ensure that you build a pathway to realise that ambition safely.

If you believe there is an issue, omission or error in Range Orders contact the Land Range Safety Team at ADFSAPS@defence.gov.au

To assist planning and conducting a safe range practice, the process suggested on the following page may prove helpful and has been reinforced and updated as a result of reviews of various range incidents.

Preparing for a range activity

- Understand the intent of the unit mission and training level you are working towards. Design the training to meet that mission. Doing this simple step will align your activity(s) with your unit mission profile and will shape the training that will be planned.
- Develop a training program that supports the mission objectives. Start at a simple level and add more complexity as individuals and the group gain mastery of each step in the training continuum you have designed (known as a training progression).
- Have the training plan checked by a Senior Range Instructor prior to briefing higher.
- Once the range activities for the training program have been set, visit the range if possible (only exceptional circumstances should prevent a range reconnaissance) or layout the range area as a schematic to assist developing the plan for the activity. Wargame the draft plan.
- Develop the plan, including necessary administration.
- Complete the risk assessment, if required, to ensure risks are mitigated and approved at the appropriate level.
- Have the range activity plan(s) checked by unit staff to ensure it is achievable and not overly optimistic nor too ambitious. It is essential that the plan be shaped in accordance with the firers' and safety staff's capabilities to ensure that the activity is both achievable and safe.
- Take your time. There is no rush when it comes to safety.
- Continue to practice whenever there is opportunity (during short administration breaks during the day – this should create a 'buzz' within the team to 'own' the activity as they discuss, recommend and update changes and 'tweaks' to their roles in the planned activity).
- Review your plan – is it too ambitious, complex, simple, is it relevant?
- Make opportunities to practice. Is the training plan still workable?
- Before the practice, visualise it and work through each phase of the practice. If it involves movement then visualise each bound.
- At the range, do the walk through yourself first, then with the safety staff – constantly wargame the practice during this process.
- Set out targets ensuring you complete a robust triangulation and identify where each engagement will or is permitted to take place. Mark these locations as required. Ensure that no personnel will be inside the 600 mils safety angle at each engagement location. Ensure that the safety supervisors for each firing position understand where the dangerous space is and where all other personnel will be for each firing location.
- Depending on the training level of participants and the type of activity, even a simple activity may require a walk through (eg. for new 'March Ins' and first timers etc).
- If the practice is complex, a room clearance as an example, then walk throughs are a must for the staff and operators.
- Build up the practice on the ground (singles, pairs, manoeuvre groups etc). Make sure this is done first as a dry practice, progressing to blank, Man-marking munitions then to Ball as experience and confidence increases (these activities will, if conducted appropriately, become learning opportunities for staff and operators alike and become opportunities that allow the plan to be adjusted).
- If there is a need to include other effects (such as battle noise simulation, over-head fire, flanking fire or high explosive natures) introduce these gradually and not all at once.
- The aim is to take time to build mastery adding complexity as mastery develops in the individual and team. Add one item of complexity at a time. Remember this is not a test of your team; it is the build up to the test.

For your Vui-Tui



Pre-Activity Range Check List

- ☐ Ammunition requests submitted NLT than 70 days prior large activities (large amounts of HE natures and/or large amounts (20,000 rds +) of Small Arms natures). For smaller activities ammunition requests submitted NLT 30 days prior to the activity.
- ☐ All personnel have the appropriate qualifications to hold allocated Range Safety Appointments.
- ☐ All range Safety Appointments have conducted the annual Range Safety Test with results held in unit records.
- ☐ All range bookings finalised at 7 days prior to activity.
- ☐ Liaison with any external support has occurred to ensure elements have a clear understanding of roles, responsibilities and timings.
- ☐ The Weapon Movement Plan has been submitted through the S2 Cell.
- ☐ The OIC Practice is to attend the Range Conference the week prior to the activity.
- ☐ Staff checks conducted of COMD/CO/OC/Authorised Delegate approval of range details (including safety traces for all live firing activities).
- ☐ Ensure all appropriate publications are held within range trunk.
- ☐ Standing Orders for the specific range have been read on [TASMIS](#) (this site holds all up to date amendments).





- Any changes to OIC Practice or range safety appointments post the Range Conference, a Minute signed by the OC detailing changes must be sent Range Control.
- Prior to leaving the unit, ensure the following have occurred:
 - Passenger manifest (PG 104) is completed and handed in to the S2 Cell.
 - Statutory Declarations have been signed by the drivers of both escort and cargo vehicles.
 - Convoy Orders are given and understood.
- The OIC Practice is to report to Range Control, sign for the range, and receive a range control radio. Further, ask the following:
 - Have any changes to other range users' requirements since the last range conference?
 - Will there be civilian maintenance of the range that you are using?
 - If any other units have planned a reconnaissance on the range you are using?
 - If a DPRAC is in place, where are they situated and who are they?
 - If the fire danger is high, what is the response time to your range for fire appliances?
 - When there is the likelihood of fire, are you able to move the fire tender closer to your activity?

Note: that the above list is not exhaustive and is a basic guide only to assist in range preparations. Refer to [LWP-G 7-3-1 ADF Range Orders \(Land\), Part 2, Chap 8, 'Planning'](#) for comprehensive and detailed guidance.



PWTSS: Friendly competition on the virtual range

by LCPL Harrisen Gill, 1 RAR

PWTSS in action; scenario based training was able to be conducted for pairs and small teams to build communications and rehearse actions on.

I was fortunate enough to be trained on the Portable Weapon Training Simulation System (PWTSS) in the lead up to leaving for Papua New Guinea (PNG) as a part of Exercise WANTOK WARRIOR (Ex WW) 2018. The training was short; the benefits of being a PWTSS operator and the benefits to the contingent deployed far outweighed the couple of days taken by system training.

The PWTSS provided the members of Ex WW Mentoring and Training Team (MTT) a unique experience to conduct a wide variety of practical training simulations whilst overseas. The PWTSS was utilised every Wednesday night for regular training, and when spare time permitted. It provided a means to contribute to maintaining basic weapon proficiency alongside EF88 blank fire training.

The PWTSS provides much of the functionality of a fixed WTSS facility, with a reduced number of firers – one to four weapons can be used depending on the size of the facility available to set up in.

The flexibility to transport and establish the PWTSS within our camp was a clear advantage. For the contingent, there were many training benefits, including: conduct video and computer generated imagery scenarios, Close Quarter Battle (CQB) shoots, All Arms Call for Fire (AACFF) scenarios as well as the conduct of competition shoots.

Some soldiers had previously not been exposed to the variety of practices available. During scenarios, soldiers operated in pairs to tackle semi-realistic situations where they could test their accuracy in a variety of shooting positions; and rehearse communications



A 20'x30' tent is sufficiently large to be able to set up and run the PWTSS for four lanes. A smaller facility will reduce the number of lanes. PWTSS flexibility allows for single lane through to four lane operation, dependent on need and facility size available.

and non-kinetic responses at varying ranges on a variety of targets. The standout favourite for the soldiers though was competition shoots. Soldiers were able to test their skills against each other and demonstrate speed and accuracy with the weapon, whilst employing Enhanced Combat Shooting techniques. The major benefit of the PWTSS over the static facility is the flexibility; not only in location, but it removes time pressures by being self-sufficient; having qualified PWTSS operators in the MTT contingent.

One of our 2nd Close Health Company specialists, PTE Britney Johnson, stated that the system was remarkable. 'It allows

people to be able to work on their shooting capability, even in environments where such a luxury would not usually be realistic.'

As with most developing technologies, there are some issues and constraints which the manufacturer is already addressing. The soon to be released Mobile WTSS system (the update to the PWTSS) will deliver high definition graphics, enhanced combat shooting scenarios and untethered 'bluetooth style' weapon systems. The combination of these improvements will transform the current platform into a world-leading, portable close combatant/battlefield shooting training system.

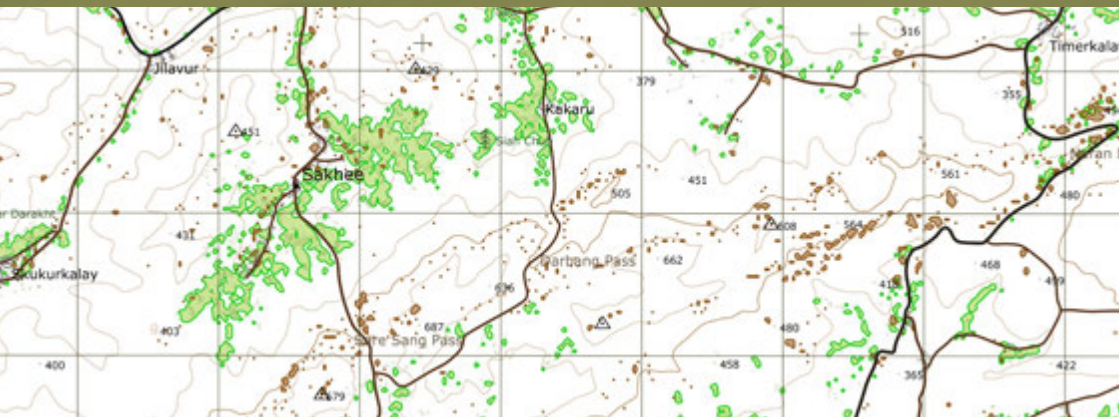


The PWTSS allows for a variety of standard practices, group practices, Computer Generated Image scenarios and the semi-realistic, video scenarios to be run for up to four firers. All firing positions are possible and computer feedback is available to help train the marksmanship principles and weapon handling skills.

The PWTSS has proven a success in the field. The MTT Contingent would not have been able to undertake as much continuation training and weapons handling were it not for the PWTSS. The fact that it can be set up in a tent or a building is proof of the flexibility of the system. It can be used at any time; there is no need to rely on an external operator, no need for range bookings or ammunition. Simply set up and crack on – unlimited range practices, all you need is power.



PWTSS in action. Scenario based training was able to be conducted for pairs and small teams to build communications and rehearse actions on.



Quick Decision Exercise

Takistan ambush

Doctrine

Ambush: An ambush is a surprise attack from a concealed position by a force lying in wait. It is usually a brief encounter and does not require the seizure or holding of terrain. It is a technique combining surprise and shock action to the fullest extent in order to destroy an enemy, including their offensive support and mobility assets, and obtaining intelligence through the capture of enemy prisoners, information and material. Ambushing can be undertaken from section level through to battlegroup. It is particularly useful in causing severe physical and psychological shock to an enemy force and, if used frequently enough, will cause moral dislocation of the enemy forces, restricting their movement and operations. Ambushing requires sound training, well-rehearsed tactics, techniques and procedures, strong battle discipline and the application of mission command principles to the lowest levels.

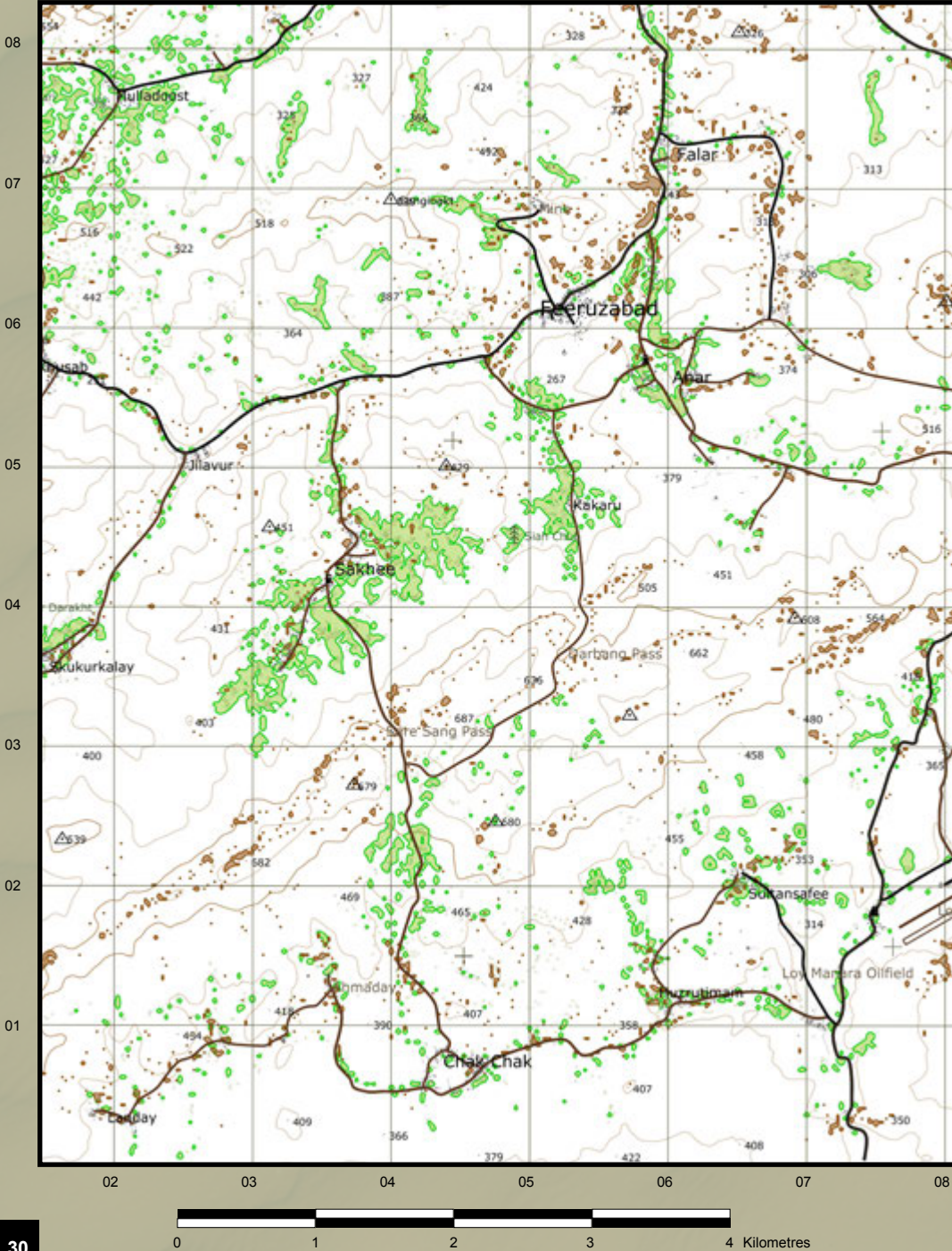
LWD 3-3-7, Employment of Infantry, 2008

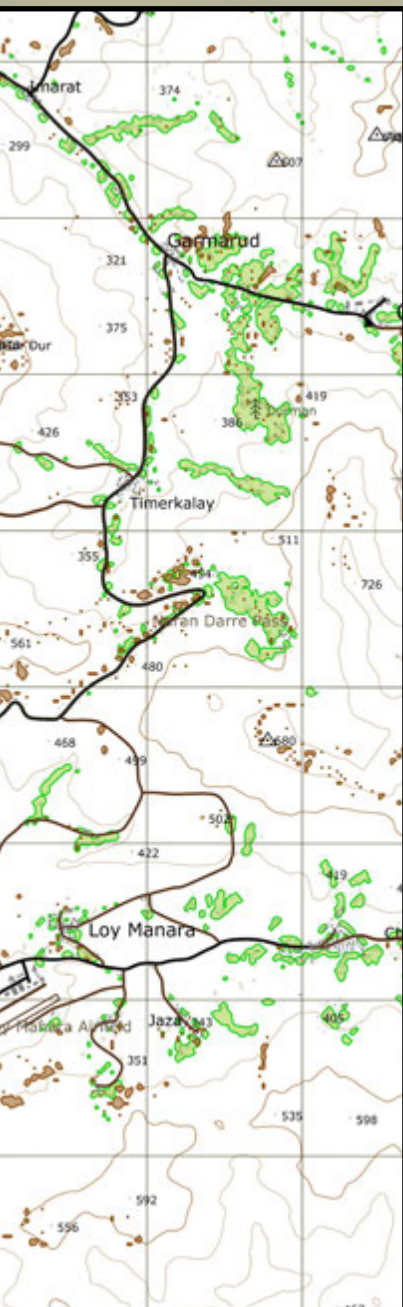
Further doctrine associated with this QDE is classified. To access via DPN, please use the following link: [Army Knowledge Online](#)

Ambush: Observations, insights and lessons

The following three ambush related insights, resulting from a number of combined observations collected post recent operations and exercises, are provided for awareness:

- Observations identify that soldiers need to consistently consider how frequently contact distances with the enemy occur outside of the standard rifle range distances between 100m-300m when zeroing their personal weapons. For example, in urban terrain, ambushes or thick vegetation, the contacts have been at distances less than 100m. Other deployments operating in deserts have encountered contacts at distances between 500m and 600m. Personnel need to consider recent operation experiences for their theatre when zeroing weapons. A weapon zeroed for an incorrect distance contributes to inaccurate shooting.
- Enemy forces are developing effective tactics, techniques and procedures (TTPs) in which they use a suspicious person to lure coalition forces into a predetermined situation. Once effectively lured they will then engage.
- Within current operating environments, junior commanders and soldiers need to be conscious of the enemy's true intentions following initial engagement. Time must be taken to quickly ask yourself the simple question 'Why does the enemy want me to do this?'. Analyse this information, and use this to attempt to out think the enemy. Examples are luring our forces into an area of his choosing before full engagement or channelling our forces into a pre-placed improvised explosive device.





You are a PL/SECT Commander deployed to Takistan with AS FE currently in the stabilisation phase of an ongoing operation. Post decisive land combat, En forces are in disarray, some elements are currently attempting to regroup/reorganise at a location yet to be identified by HUMINT and ISR assets, others have deserted and are attempting to return to their homes in the north.

Over last three days, En forces have been observed moving south to north along the route from Chak Chak (IVO GR 046 007) to Sakhee (IVO GR 035 042) during the period of darkness. Size of En force each night has been identified as a 6-8 man armed group carrying Small Arms only. Throughout the area, reporting also indicates that En stragglers (1-2 man groups) both armed and unarmed are surrendering immediately on encountering AS FE. It is assessed that En forces are attempting to regroup at an unknown emergency RV to the north.

There are civilians living in the area - allegiances unknown. During daylight hours, civilians have been observed farming in the green zones and moving along routes with donkeys and carts. Night should see a reduction in civilian movement. There is a large IDP presence in the area with displaced civilians moving south from En occupied areas to the north. This movement is predominately during daylight hours and along major routes.

Time is now 0800h D+5. You have just been informed the father of a Sect 21C has passed away and a notification is required. The next RTA flights are scheduled for D+6 and D+9. You are currently located at FOB RUGBY (IVO GR 073 018).

Mission

PL/SECT is to conduct an ambush IVO GR 042 021 NLT 0600h D+8 in order to disrupt En force reorganisation.

Own forces

3 x Infantry sections

Sect Comd – F88A2 Elcan with 6 x 30rd magazines and 2 x 30rd magazines (trace), Mk3 SLP with 5 x 13rd magazines, smoke grenade (white, yellow) and NVG.

2IC – F88A2 Elcan with 6 x 30rd magazines and 2 x 30rd magazines (trace), Mk3 SLP with 5 x 13rd magazines, smoke grenade (white, yellow) and NVG.

2 x Marksman – Mk 11 SR25 Sniper Rifle with 5 x 20rd magazines, Mk3 SLP with 5 x 13rd magazine, smoke grenade (white), M67 fragmentation grenade, M18A1 Claymore and NVG.

2 x Grenadier– F88A2/M203 Elcan with 8 x 30rd magazines, 20 x 40mm HE grenades, 10 x 40mm HEDP grenades, 5 x 40mm ground markers (red), 5 x 40mm ground markers (yellow) and NVG.

1 x Gunner (F89) – F89 (SAW) with 5 x 200rd magazines, Mk3 SLP with 5 x 13rd magazines and NVG.

1 x Gunner (Mag 58) – MAG 58 with 5 x 100rd magazines, Mk3 SLP with 5 x 13rd magazines and NVG.

PHQ

PL Comd – F88A2 Elcan with 6 x 30rd magazines and 2 x 30rd magazines (trace), Mk3 SLP with 5 x 13rd magazines, smoke grenade (white, yellow) and NVG.

PL SGT – F88A2 Elcan with 6 x 30rd magazines and 2 x 30rd magazines (trace), Mk3 SLP with 5 x 13rd magazines, smoke grenade (white, yellow) and NVG.

PL Signaller – F88A2 Aimpoint with 8 x 30rd magazines, 2 x M84 Stun grenades and NVG.

PMV

4 x Bushmaster IMV and 2 x Bushmaster RWS – M2 TACON. Currently located at FOB RUGBY.

OS

3 x Mortars (81 mm) in Direct Support with 24 HE and 12 WP rounds allocated. Currently located at FOB RUGBY.

CASEVAC

AME available

HLTH

Level 1 Health facility located at FOB RUGBY.

ISR

Nil

Use simulation to test your plan

If you wish to test your plan, arrange (through your unit) to attend your nearest Battle Simulation Site (BSS) – they are in Darwin, Townsville, Brisbane, Singleton, Puckapunyal, Canungra and Adelaide, where you can execute your plan in VBS3. The BSSs look forward to supporting your development. For more information go to [Army Knowledge Online](#).





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