

**CLOSE AIR SUPPORT EMULATION AND
SIMULATION FOR 1st ARTILLERY BRIGADE**

Statement of Requirement (SoR)

CONTENTS

Part	Topic	Page
1	General Description	1
	Introduction	1
	Background	1
	Requirement	1
	Delivery	2
	Scope	2
	Locations	4
	Training Periods	4
	Contract Management	5
	Authority Obligations	5
	Assumptions	6
2	Key User Requirements (KUR)	7
3	Glossary	11

PART 1 – GENERAL DESCRIPTION**1. Introduction**

1.1 1st Artillery Brigade (1 Arty Bde), 'The Designated Officer' (DO), holds the training responsibility for 140 Joint Terminal Attack Controllers (JTACs). The JTACs do not currently have access to a Land Forces (LF) specific JTAC Accredited Simulator¹ that enables them to achieve their mandated currency training requirements².

2. Background

2.1 The future Service solution, Joint Fires Synthetic Trainer (JFST), is not due to be released to service until Q2 2020. This capability gap means that 1 Arty Bde cannot exploit the opportunity to utilise the simulated environment to undertake 980 controls per year, c. 424 hours (Hrs)³, of Close Air Support (CAS) that would need to be fulfilled with military or contract CAS to maintain minimum currency standards⁴.

1 Arty Bde JTAC Liability	Max Individual JTAC Currency Controls in an Accredited simulator	Max Individual JTAC Annual Evaluations per year	Currency Control Time (Mins)	Annual Evaluation Time (Mins)	Total Time for Currency Control per year (Hrs)	Total Time for Annual Evaluations (Hrs)	Total Controls Per Year	Total Sim Per Year (Hrs)
140	6	140	20	60	280	140	980	424

3. Requirement

3.1 Provision of a simulator system and training service to 1st Artillery Brigade. The requirement is for a managed simulator that is deployed, set-up, operated with the necessary personnel, maintained and removed by the supplier to deliver an Accredited (by UK JALO STANEVAL) service to the DO at their point of need (location and time) in order to maximise simulation controls whilst minimising demand on Front Line aircraft and maintaining currency in all available disciplines of Close Air Support (CAS).

3.2 The Contractor shall be required to conduct a minimum of 424 training hours per financial year. It is anticipated that a minimum of 104 and a maximum of 140 JTACs will be trained per financial year.

In accordance with; JCAS AP MOA 2004-01 - Joint Terminal Attack Controller (JTAC) (Ground) – Dated 1 Jan 2012, JSP 918 -Joint Terminal Attack Controller Policy Part 1: Directive and JSP 918 Joint Terminal Attack Controller Policy Part 2: Guidance (V3.0 - Dated Sep 15), Allied Tactical Publication 3.3.2.2 (NATO Standardization Agreement (STANAG) 3797) Minimum Qualifications for Forward Air Controllers and Laser Operators in support of Forward Air Controllers.

³ 840 currency controls lasting up to 20mins and 140 annual assessments lasting up to 60mins.

⁴ JSP 918 Pt 1 (V3.0 Sep 15): Synthetic Training. For the purposes of maintaining annual currency, JTACs and FAC (A)s must use a NATO/JFS ESC accredited synthetic trainer to complete up to 6 of the annual currency controls (3 per 6 months).

3.3 Any simulator service solution needs to have flexibility to adapt to the User⁵ adjustable training Forecast of Events (FoE), which can change due to operational requirements. The minimum notice for a change of delivery venue (within the UK) or date period is expected to be not less than 30 days from the planned day of delivery for the User.

3.4 JTACs are required to maintain currency (6 controls every 6 month) in order to retain Certified Qualified Status and be ready for operational deployment. Failure to maintain currency results in an inability for a JTAC to control unsupervised, which would prevent them from deploying. The action required to rectify this situation requires a period of supervised controls that will delay deployment and impact on a units operational Readiness State (RS).

4. Delivery

4.1 First delivery of an accredited simulator shall be 1st August 18

5. Scope

5.1 The general scope of the Contract requires a provider who is able to emulate UK and other Nations' CAS and ISR platforms, aircrew tactics and procedures for 1 Arty Bde subordinate units in the UK. Key to the value of the service will be the Contractor's ability to:

5.2 Simulate the required controls types for currency:

- (a) Type 1, 2 and 3 Terminal Attack Controls (Day and Night).
- (b) Bomb on Coordinate (BOC)⁶ and Bomb on Target (BOT).
- (c) Simulate a Fixed Wing CAS aircraft.
- (d) Simulate Rotary Wing CAS aircraft.
- (e) Enable a Ground designated Laser Control.
- (f) Emulate an IR pointer to mark a target and establish Friendly Forces position.
- (g) Simulate a remote observer or FAC(A).
- (h) Video Down Link (VDL).
- (i) Operate in accordance with current policy governing CAS, ISR, Battlespace Management (BM) and Joint Fires Integration (JFI).

⁵ 'User' - Subordinate Units to 1 Arty Bde; 1 RHA, 3 RHA, 4 RA, 19 RA, NRHQ (255 Bty).

⁶ BOC not currently able to be recorded for Currency by a JTAC in a simulator.

- (j) Emulate voice procedure and tactics for NATO operated CAS and ISR platforms.
- (k) Accurately simulate weapon delivery profiles for in-service UK and US air-surface weapons.
- (l) Maintain a working knowledge⁷ of other NATO air-surface weapons.
- (m) Provide Full Motion Video downlink to JTACs via means compatible with in-service video receiver systems.
- (n) Operate Digitally Aided-CAS systems and tactics.
- (o) Adhere to Joint Air Land Organisation (JALO) accreditation procedures.
- (p) Have a thorough working knowledge of CAS and ISR requesting and reporting formats and mission briefs.
- (q) Have a thorough working knowledge of and apply UK Air Command and Control (C2) tactics and procedures.
- (r) Operate with fixed costs in the UK but to also be able to operate elsewhere internationally if required.
- (s) Liaise with the customer to generate scenarios based on the training requirements of the Unit. Specifically the provider should be able to operate from unit generated or self-generate Special Instructions (SPINS), Concept of Operations (CONOPS), Concept of Fires (COF), Grid Related Graphics (GRGs) and mapping 1:25,000 and 1:50,000 to replicate a simulated environment and scenarios. The customer will provide the supplier with at least 30 days' notice when new scenarios are required.
- (t) Provide pre-exercise briefs to the JTAC's reflecting the structure and objectives of the exercise as agreed with Unit formation senior.
- (u) Generate simulation based on Real World locations to enable mission rehearsal. These may primarily be UK Training areas but the ability to operate in future engagement zones would prove extremely beneficial.
- (v) The Contractor shall provide a pilot to conduct exercises in the simulator.
- (w) The Contractor's simulator shall simulate environment to emulate topography of the 4 likely areas of operation and should include; Europe (likely MCO⁸), Dense Urban (MCO and COIN⁹), Tropical and Desert.

⁷ Employment TTPs, characteristics and constraints.

⁸ Major Conflict Operations.

⁹ Counter Insurgency.

(x) Operate a managed simulator system to an accredited standard and the Unit's point of need. This will predominantly be at Unit's 'home' bases (Tidworth, Topcliffe, Albemarle, Larkhill and Bath Army Reserve Centre) in order to minimise 'nights out of bed' for exercising troops. Through User/Contractor engagement, the Contractor shall be prepared to deliver the training at alternate MOD bases to meet the user point of need requirements to best support collective training or exercise periods. The Unit will be responsible for ensuring suitable facilities are available to house the simulator for the full period of use.

(y) The Contractor shall be able to emulate JTAC Surveillance devices as follows:

- Laser Target designator (current in service solution – LF28A)
- Laser Spotter Binos.
- Military Binos
- IR Pointer (Izlid 1000)
- IR/ Day TV Range Finder (In service, JIM LR/ LRTV as part of Firestorm).
- Mil GPS (In service DAGR).
- Target Generation system (Cat 2) – Currently achieved with Firestorm

6. Locations

6.1 Training is to take place predominantly within the 1 Arty Bde regimental Units (Tidworth, Larkhill, Topcliffe, Bath Army Training Reserve Centre and Albemarle); however training may also be required at RAF Lossiemouth, Kinloss Barracks and RAF Spadeadam. Should the training unit not have a facility at the time required then a suitable alternative will be sourced from across other Army or RAF sites. There may also be requirements for the simulator to be utilised during a nominated training period in an overseas location. These are most likely to be in the USA, Estonia, Germany or the Czech Republic. This list is not exhaustive. This requirement is expected to be by exception and not a routine requirement.

7. Training Periods

7.1 The requirement is for the delivery of 54 Training Serials¹⁰ per FY. The Training Serials are required to be delivered in the following format:

(a) **2 x 5 Day Training Periods.** A 5-day Training Period will be used to support 1 Arty Bde JTAC Concentration Exercises (eg. Ex TERMINAL STRIKE). A 5-day Training Period comprises of consecutive weekdays (Mon – Fri) training from 0800-1200 Local and 1300 – 1700 Local daily. 1 Arty Bde may choose to utilise these 2 x 5 Day Training Periods sequentially (ie. Mon – Fri and Mon – Fri) during a 2 week period

¹⁰ Equating to 424 training hours.

(b) **9 x 4 Day Training Period.** A 4-day Training Period comprises of consecutive day training period. The Contractor should deliver simulation from 0800 – 1200 Local and 1300 – 1700 Local daily. These Training Periods will be conducted during the working week (i.e. Mon – Tue or Tue - Fri).

(c) **3 x 2 Day Training Periods.** A 2-day Training Period comprises of consecutive days training. These periods should be delivered on Sat and Sun from 0800 – 1200 Local and 1300 – 1700 Local daily.

(d) **2 x 1 Night Training Period.** A 1-night Training Period is a single event that should be conducted from 1800 – 2200 Local.

	Training Period			
Period	Weekday	Weekday	Weekend	Weeknight
Days	5	4	2	1
Qty	2	9	3	2
Hrs per Day	8	8	8	4
Total Hrs	80	288	48	8
Total Hrs	424 ¹¹			

8. Contract Management

8.1 The Contractor shall provide a robust and effective Contract management service that shall comprise, but is not limited to, the following:

- Effective and efficient service delivery arrangements
- Management and staffing arrangements
- Reporting
- Performance Monitoring
- Business Continuity
- Quality assurance
- Customer satisfaction
- Health, Safety and Environmental management
- Risk Assessment/Management

9. Authority Obligations

9.1 The Authority will provide a covered facility to house the simulator and facilitate any site access requirements through the usual security request process. The

¹¹ 420 Hrs is the minimum requirement (based on a 20min Currency control), 424 Hrs provides a small margin for redundancy (less than 1%).

Contractor may be required to provide personal detail of staff in advance of the Training Period

10. Assumptions

- 10.1 Organic military capabilities (RAF Training and Operational aircraft) will not be able to provide the level of support required to maintain JTAC Currency for 1 Arty Bde's JTAC liability.
- 10.2 Military aircrew or JTAC-I will not be available to provide the SME 'Pilot' input in the simulator, required for accredited controls. The Contractor shall provide this.
- 10.3 The simulator shall be capable of broadcasting an FMV feed to the in service VDL receiver, to enable 'on the man' training.
- 10.4 Any simulated equipment shall replicate the current in service systems and be upgraded with the introduction of Digital Joint Fires Integration (DJFI) systems.
- 10.5 All non-military/defence personnel who do not hold security clearance to access military establishments will be escorted by the training unit.
- 10.6 It is anticipated that 3 controls per hour shall be trained during routine currency controlling.
- 10.7 On-site accommodation (at a cost to the Contractor) cannot be guaranteed to unescorted visitors. Therefore, the Contractor shall not plan for this unless a local agreement is made with the hosting units.
- 10.8 Any period of unserviceability will be reimbursed in time at no extra cost to the DO.
- 10.9 Post Event Reports (PERs) will be generated by the User (Formation Senior) at the end of each Training Period. These will be shared with the Contractor. The PER will comment on the number of controls achieved, how the scenario enhanced JTAC mission preparation or training and rate KPI's as outlined in condition 48 of the contract. This list is not exhaustive and additions will be at the discretion of the Formation Senior.
- 10.10 The Contractor shall deliver the Contract with appropriately qualified and accredited personnel
- 10.11 In the event that the simulator is required overseas the Contractor shall be responsible for all costs associated with deployment and recovery.

PART 2 – KEY USER REQUIREMENTS (KUR)

KUR	User Requirement	Justification	Additional information	Relevant performance indicator (PI)
1	The user shall train in simulated environments that allow them to exercise all variant of CAS and TTPs to an Accredited standard.	<p>Generate sufficient CAS to support maintain currency.</p> <p>Requirement to maintain JTAC currency and minimise burden on operational aircraft.</p> <p>Reduce JTAC's 'nights out of bed'.</p> <p>Reduce actual costs of live training (T&S) and aircraft (hours and munitions).</p> <p>7</p>	<p>Support training for 1 Arty Bde subordinate units for up to 424 hrs per financial year (FY) at User point of need.</p> <p>Deliver no less than 424 hrs of accredited simulator training time each FY.</p> <p>Emulate representative weapon engagements, sensor profiles and voice procedure in accordance with extant doctrine and TTPs for respective in-service UK and NATO platforms.</p>	4

2	The user shall have an FMV downlink.	To support JTAC currency controlling through FMV downlink.	<p>Emulate the FMV feed from current RAF and NATO airborne sensors on in-service platforms using an aircraft mounted FMV sensor and downlink transmitter.</p> <p>Emulation capable of being broadcasted to the current in service Video Down Link receiver to enhance 'on the man' training.</p> <p>FMV will be representative of the current service Pod's</p>	N/A
KUR	User Requirement	Justification	Additional information	Relevant performance indicator (PI)

3	The user shall have voice communications with the provider.	To enable emulation of CAS, ISR and battlespace management voice procedure.	<p>A simulator that can be operated, without the need for service radios, that replicates (in user interface) TACSAT (Joint Air Request Net), and Line of Sight (LoS) with the CAS platform for terminal control.</p> <p>The ability for Service provided radios to be used to communicate from the exercising JTAC with the simulator operators (Pilot) to enhance 'on the man' training.</p>	8
4	The Contractor shall be self-sufficient for transporting, setting up, maintaining and removing the simulator from Unit locations.	To ensure efficient delivery of the service, military support outside of the delivery window will not be possible.	A fully managed system that is establish, manned, maintained and recovered from the desired training period without any external support from military personnel.	6

Schedule 9 to CB/BFG/0150

5	The simulator solution delivered must be accredited by JALO.	To enable validated JTAC currency training.	All relevant systems and personnel to be accredited by JALO.	1
6	A simulator that emulates the full range of JTAC in-service Surveillance Target equipment (Compass, Binoculars, LRTV and Laser Designator).	To enable the JTAC to practice utilising associated equipment to Detect, Recognise and Identify and Indicate targets in the simulated environment.	Replicate the in service JTAC optical and navigational equipment.	5

PART 3 – Glossary

AAR – After Action Review	MAA – Military Aviation Authority
AGL – Above Ground Level	MAC – Mid Air Collision
ALARP – As Low as Reasonably Possible	MGRS – Military Grid Reference System
AMSL – Above Mean Sea Level	MISREP – Mission Report
AOC – Air Operators Certificate	MOA – Memorandum of Agreement
ASMP – Air Safety Management Plan	MOD – Ministry of Defence
ASMS – Air Safety Management System	MOU – Memorandum of Understanding
ASR – Air Support Request	NATO – North Atlantic Treaty Organisation
ATP – Allied Tactical Publication	NVA – Night Viewing Aid
BM – Battlespace Management	OPFOR – Opposing Forces
BNG – British National Grid	PM – Protective Marking
C2 – Command and Control	POC – Point of Contact
CAA – Civil Aviation Authority	PTA – Primary Training Audience
CAS – Close Air Support	PXR – Post Exercise Report
CFIT – Controlled Flight Into Terrain	RA – Regulatory Article
CIS – Command and Information Systems	RAF – Royal Air Force
CTE – Collective Training Establishment	ROVER – Remote Operations Video Enhanced Receiver
DACAS – Digitally Aided Close Air Support	Rx – Receive
DAGR -Defence Advanced GPS receiver	SC – Security Checked
DCA – Defence Cooperation Agreement	STANAG – Standard Agreement
DV – Developed Vetting	STARTEX – Start of Exercise
EASA – European Aviation Safety Agency	TACP – Tactical Air Control Party
ENDEX – End of Exercise	TTP – Tactics, Techniques and Procedures
EXCON – Exercise Control	Tx – Transmit
FTU – Field Training Unit	UAV – Unmanned Air Vehicle
FMV – Full Motion Video	UHF – Ultra High Frequency
GLO – Ground Liaison Officer	VFR – Visual Flight Rules
HICON – Higher HQ Control	VHF – Very High Frequency
HQ – Headquarters	
IELTS – International English Language Test System	
IFR – Instrument Flight Rules	
IR – Infra Red	
ISR – Intelligence Surveillance reconnaissance	
JALO – Joint Air Land Organisation	
JCVRT – Joint Common Remote Viewing Terminal	
JFI – Joint Fires Integration	
JIM LR - Long range multifunction cooled infra red binoculars	
JSP – Joint Service Publication	
JTAC – Joint Terminal Attack Controller	
JTAR – Joint Tactical Air Request	
LAT LONG – Latitude Longitude	
LRTV- Long range thermal video imaging system.	
LI – Lesson Identified	

