**ABRAMS FAMILY OF VEHICLES (FOV)**
**SYSTEMS TECHNICAL SUPPORT (STS) AND**
**SUSTAINMENT SYSTEMS TECHNICAL SUPPORT (SSTS)**
**WORK DIRECTIVE**
**W56HZV-17-C-0067**

**Contractor:**
General Dynamics Land Systems, Inc.

**Category:** Engineering

**Work Directive (WD) No:** 2023
**Date Original WD Issued:** 28-Sep-17
**WD Supplement No:** ~~1~~2
**Date Supplement Issued:** 26-Oct-17

**WD Description:** US Army Trophy HV Vehicle Protection System (VPS) Support For Fielding under an Urgent Material Release (UMR)

**Performance Completion Date:** Date of WD award through 29-Mar-19

**Relevant Statement of Work Sections:** C.1.1, C.1.5, C.2.1, C.2.2, C.4.3, C.6.1, C.6.2, C.8.2, C.11.11, C.11.12, C.19.1

**CLIN Number:** 2023AA
**Type:** Completion form in accordance with FAR 16.306(d)(1)

| Element | Prior Balance | This Revision | Current Balance |
|---|---|---|---|
| **Estimated Cost** | $9,083,957 | | $9,083,957 |
| **Fixed Fee** | $816,038 | | $816,038 |
| | | | |
| **Total Estimated CPFF** | $9,899,995 | | $9,899,995 |

1.0 Objective

1.1 The objective of this effort is to support an Urgent Materiel Release (UMR) and have First Unit Equipped of Trophy installed on an Armor Brigade Combat Teams M1A2 SEPv2. The United States Government (USG) schedule is the current baseline/reference for overarching project and is provided as Government Furnished Information (GFI).

1.2 This WD provides engineering technical services, problem resolution during integration of a Vehicle Protection System (VPS) onto an Abrams platform, and test site support during USG testing. The effort takes the initial A-kit

design (developed under WD 2008 on contract W56HZV-17-C-0067) and refines it to include additional integration, fabrication of A-kits to support USG testing, logistic products development, and increased capability of the Trophy integrated software.

1.3 Background: The USG has a Government-to-Government agreement with Israel. The agreement allows direct interaction with the Israeli Ministry of Defense whom provide the support from the Trophy system OEM (Rafael). Rafael support provides the technical expertise to operate the Trophy system, measure overall Trophy performance, and provide/collect test data. The awarded WD with GDLS allows for engineering services, problem resolution for the A-kit, and test site support during the USG UMR phase.

2.0 Applicable Documents

2.1 Previous Contract Deliverables

2.1.1 Final (Release 2) A-kit models and Level 2 Drawings

2.1.2 Final Overall Vehicle Analysis Report

2.1.3 Weight and CG Report

2.1.4 Installation Instructions

2.1.5 A-Kit SAR

2.1.6 Characterization test data

2.2 Requirements Documents

2.2.1 Abrams SEPv2 2004 System Specification SA-SA00001D 04 April 2004

2.2.2 Updated Trophy HV VPS ICD (Interface Control Document) Models

2.3 Government Furnished Information or Material

2.3.1 Abrams APS Phase 2 and 3 Schedule – see supplemental information

2.3.2 Abrams Security Classification Guide Dated 2 Feb 2017

2.3.3 Updated Trophy HV VPS Security Classification Guide (to be delivered ~~Nov~~ Jan 17)

2.3.4 Updated Trophy Program Security Information Document (to be delivered ~~Nov~~ Jan 17)

2.3.5 TARDEC Characterization Report (to be delivered ~~Nov~~ Feb 17)

2.3.6 TARDEC Scan (CAD) of SEPv2 turret (Tank used during Camp Grayling Tuning)

2.3.7 Installation Red Lines, user evaluation notes and lessons learned from TARDEC, RTC and YTC

2.3.8 One (1) Trophy System without countermeasures (live or inert; includes B-kit, and harnesses)

2.3.9 Four (4) Energy Storage Units (ESUs)

2.3.10 Abrams M1A2 SEPv2 (SN: LS12012M)

2.3.11 Translated ~~B-Kit Supporting Documentation (i.e.~~ Operators Manuals, ~~Maintenance Manuals, Training~~ Material~~)~~

2.3.12 Monolith bracket from the 1st A-kit fabricated by USG

2.3.13 Updated Trophy HV VPS ICD (Interface Control Document) Models (to be delivered 30 days after award of the Project Agreement with the Israeli Ministry of Defense, January 2018)

**Commented [SMA1]:** Suggest both require updating

**Commented [SMA2]:** Update needed?

**Commented [SMA3]:** Suggest removal of the items we will not be getting as it has been indicated we will only receive the operators manual

**Commented [SMA4]:** Assumption is being made here that since this is beyond the design window (all drawings will be released before this), any updates to the ICD will not be expected to be incorporated for May delivery. This includes the hydraulic reloader.

2.3.14 Updated Trophy HV VPS Computer Aided Design (CAD) Models (to be delivered 60 days after award of the Project Agreement with the Israeli Ministry of Defense, January 2018)

**Commented [SMA5]:** See above comment

3.0 Requirements Engineering

3.1 Start of Work Meeting (SOWM)

~~3.1.1~~ The contractor shall host and conduct a Start of Work Meeting to introduce and align the Government and contractor teams. The SOWM shall consist of a Scope of Work review and schedule review. The contractor shall deliver Meeting Minutes, IAW Contract Data Requirements List (CDRL) A001 ~~and Presentation Materials, IAW CDRL A002.~~

**Commented [SMA6]:** Request removal of the presentation materials CDRL if possible, and to instead deliver the presentation material the day before the SEIT meetings as was done on CLIN 2008.

~~3.1.1~~

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3.2 Systems Engineering Integration Team (SEIT) Meetings

3.2.1 The contractor shall conduct Government-contractor Trophy VPS HV SEIT meetings with the contractor's technical team starting two weeks after contract award. The purpose of these meetings are to present updates to Logistics products and Technical Data Package/Engineering Change Proposal (TDP/ECP) development, identify technical issues and corrective actions, and identify program and technical risks. Identified risks shall follow the contractor's processes for risk management. The Trophy VPS HV SEIT shall not be combined with the STS OAIPT. The contractor shall deliver Meeting Minutes, IAW Contract Data Requirements List (CDRL) A001 and Presentation Materials, IAW CDRL A002.

3.3 APS A-Kit Requirements Meeting

3.3.1 The contractor shall host one APS A-Kit Requirements Meeting. At the meeting, all stakeholders shall define current kit deficiencies, Energy Storage Unit (ESU) modifications, SW requirements, user inputs and changes to kit required for first brigade fielding design. The Requirements Meeting may be held in place of one SEIT meeting. The contractor shall deliver Meeting Minutes, IAW CDRL A001 and Presentation Materials, IAW CDRL A002.

3.4 Interim Program Review (IPR)

3.4.1 The contractor shall host one Interim Program Review (IPR). The contractor shall provide and brief the COR on the findings up to the date at the IPR. The IPR shall cover TDP, ESU, software (SW), Logistics products updates, and status on A-kit fabrication. The IPR date in the milestone schedule may be moved with COR approval. The IPR may occur in the place of one of the SEIT meetings. The contractor shall deliver Meeting Minutes, IAW CDRL A001 and Presentation Materials, IAW CDRL A002.

4.0 Design and Integration

4.1 The M1A2 SEPv2 provided as GFE shall be used to support all aspects of this WD. The vehicle shall be returned to the USG via shipment to Camp Grayling to meet Camp Grayling need dates.

4.2 Technical Data Package (TDP) Finalization

4.2.1 Drawing Refinement

4.2.1.1 The contractor shall refine and update drawings based on the APS Requirements Meeting and SEIT meetings, as approved by the COR. The contractor shall use lessons learned from A-Kit hardware installation on the M1A2 SEPv2 and from trial fit activities, user evaluations, and field testing at Camp Grayling, MI, Redstone Test Center (RTC), Alabama, and Yuma Test Center (YTC), Arizona. The drawings shall be converted to full Level 3 production drawings that can be provisioned using normal USG standards and deliver the drawings with the ECP (WD paragraph 8.1).

4.2.1.2 The contractor shall incorporate the recommended revisions from Tank Automotive Research, Development and Engineering Center (TARDEC) that will be provided as GFI and deliver the drawings with the ECP (WD paragraph 8.1).

4.2.1.3 The contractor shall incorporate kit updates, which at a minimum shall include: removal of Experimental Operating Box (EOB) and Explosive Ordnance (EOD) box, imbalance related kit modifications, ESU diagnostics related drawings and cable redesign, and harness drawing modifications and deliver the drawings with the ECP (WD paragraph 8.1).

4.3 Energy Storage Unit (ESU)

4.3.1 The contractor shall refine the ESU design to provide the usage hours on the Trophy APS software user interface. The refined design requires software modification to provide the usage hours. The modification is to be implemented into the ESUs provided as GFE and the six new units to be delivered IAW section 3.6.3. The contractor shall update the ESU and cables to include diagnostics including voltage level over RS422 serial communications to include circuit board redesign. The changes shall be incorporated into the integrated Trophy software that is part of the Abrams M1A2 SEPv2 SW version 4.6.1.

4.3.2 The contractor shall update and deliver the four GFE provided ESUs to the latest configuration (WD paragraph 4.3.1). The delivery schedule of these upgraded ESUs is in WD paragraph 7.0.

4.3.3 The contractor shall build two ESUs to be used for qualification testing. The ESUs shall be considered end of life (EOL) at the completion of qualification testing. The contractor shall deliver the EOL ESUs to the USG no later than 30 calendar days after completion of qualification testing.

4.3.4 ESU Qualification Test Plan and Report

4.3.4.1 The contractor shall develop an ESU Qualification Test Plan and deliver it IAW CDRL A003 for COR approval prior to entering into qualification testing (WD paragraph 4.3.4.2). The contractor shall conduct an ESU Qualification Readiness Review during a SEIT meeting.

4.3.4.2 ESU Qualification Testing: The contractor shall conduct Qualification testing on the ESU in accordance with the

contractor developed Critical Item Development Specification (CIDS) and the COR approved Test Plan.

4.3.4.3 ESU Qualification Test Report: After testing is completed, the contractor shall develop and deliver an ESU Qualification Test Report IAW CDRL A061.

4.4 Engineering Trial Fit: The contractor shall conduct an engineering trial fit. The trial fit shall verify the fabrication and install against the developed A-kit TDP. Any issues found during the trial fit shall be corrected and updated in the A-kit TDP. The USG shall witness the engineering trial fit. The COR shall approve the engineering trial fit and, if any, corrections need to occur to be updated in the A-kit TDP. The contractor shall provide a summary of all discovered issues, if any, during a SEIT meeting.

4.5 APS Supplier B-kit Development

4.5.1 B-kit cable length: GDLS shall provide the APS vendor with the B-kit cable lengths to account for Abrams unique integration. APS B-kit cable development results shall be presented at the SEIT for COR approval.

4.5.2 B-kit calibration requirements: The contractor shall develop a process to provide turret angle and gun tube elevation to the APS vendor to be used for calibration of the Trophy system once installed on the M1A2 SEPv2. The contractor's identified process shall be presented at the IPR for COR approval.

4.6 Appurtenance Fixtures - Development for A-kit installation

4.6.1 The contractor shall develop and build one (1) each fixtures to install the APS A-Kit Monolith bracket to the left and right side of the M1A2 SEPv2 vehicle.

4.7 Investigations/Resolution into Main Electronics Box (MEB) Power Issue

4.7.1 The contractor shall jointly conduct a RCCA by providing technical expertise to the Trophy OEM to determine the cause of MEB power issues observed during 2017 USG characterization testing.

4.7.2 The contractor shall design a mechanical solution if required to mitigate MEB shock issues and incorporate into the A-kit design.

4.8 Resolve Imbalance Issue participate

4.8.1 The contractor shall support the USG in developing a near-term mitigation path for turret imbalance. This shall include building and delivering one (1) CREW II environmental cover (replacing armored cover); one (1) TMS environmental cover (replacing armored cover); and delivering (during a SEIT meeting as part of the presentation materials) a stowage plan for movement of stowage from the extended bustle rack to the tank hull and hull ammo compartment.

5.0 Logistics

5.1 APS A-Kit Logistics

5.1.1 A-Kit Draft Operator Technical Manual (TM) pages: The contractor shall develop draft A-kit Operator Technical Manual pages in support of test. The contractor shall train USG test personnel on draft APS A-Kit Operator pages prior to test, providing 5 paper copies of draft APS A-Kit operator manual pages at the time training is conducted.

5.1.2 A-Kit Technical Manual Development: The contractor shall develop and validate the A-Kit Technical Manual. The contractor shall attend and provide technical expertise to the USG's verification activities of the A-kit (to include SW 4.6.1 integration) 13&P Operator, Maintainer, and Repair Parts and Special Tools List (RPSTL) Technical Manuals. The contractor shall include APS A-kit installation and removal instructions in the A-kit 13&P TM. The contractor shall deliver the 13&P Technical Manual in accordance with CDRLs A069, A071, and A072, according to the following schedule: PTM 1 shall be due no later than 30 days after Validation. PTM 2 shall be due no later than 30 calendar days prior to Verification. PTM 3 shall be due no later than 30 calendar days after Verification.

5.1.3 A-Kit Operator Training: The contractor shall develop and deliver Training Program of Instruction (POI) for A-kit Operator TM

(including SW 4.6.1 integration) in accordance with CDRL A003 and conduct Instructor and Key Personnel Training (I&KPT) for government Operator's New Equipment Training (OPNET) Team for A-kit Operator TM and Trophy B-Kit Operator TM (using translated Trophy POI's). The contractor shall conduct two calendar day operator trainings to 10 USG personnel at each of the test sites (Aberdeen Test Center (ATC), RTC, and YTC) using draft APS A-Kit Operator TMs.

5.1.4 A-Kit Field Maintenance Manual Training: The contractor shall develop and deliver Training POI for A-kit Maintenance TM (including SW 4.6.1 integration) in accordance with CDRL A003 and conduct I&KPT for government Field Level Maintenance New Equipment Training (FLMNET) Team for A-kit Maintenance TM and Trophy B-kit Maintenance TM (using translated Trophy POI's). The contractor shall conduct five calendar day maintenance trainings to 10 USG test personnel at each of the test sites (ATC, RTC, and YTC) using draft APS A-Kit Field Maintenance TMs.

5.1.5 A-Kit Long Life Reusable Container: The contractor shall develop a Long Life Reusable Container (LLRC) for A-kits (to support install/de-install/accountability). Pre-modification hardware shall be segregated within the container. The contractor shall deliver LLRC drawings to the USG in accordance with CDRL A066 and the milestone schedule in 7.0 (not the delivery dates in CDRL A066).

5.1.6 A-Kit Provisioning: The contractor shall provision and deliver all field level replaceable parts and A-kit packaging data per the Engineering Data For Provisioning (EDFP) CDRL A088 and Provisioning Parts List CDRL A089. The contractor shall deliver CDRL A088 IAW the milestone schedule in 7.0 (not the delivery dates in the CDRL).

5.2 APS B-Kit MIL STD Logistics Wrap Around

5.2.1 Operator TM: The contractor shall develop, validate, and deliver MIL STD wrapper around translated Trophy B-kit Operator TM and support verification of the MIL STD wrapped B-Kit Operator TM IAW CDRL A069. The contractor shall deliver the Operator Manual in accordance with CDRL A069, according to the following schedule: PTM 1 shall be due no later than 30 days after Validation. PTM 2 shall be due no later than 30 calendar days prior

to Verification. PTM 3 shall be due no later than 30 calendar days after Verification.

5.2.2 Maintenance TM: The contractor shall develop, validate, and deliver MIL STD wrapper around translated Trophy B-kit Maintenance TM and support verification of the MIL STD wrapped B-Kit Maintenance TM IAW CDRL A072. The contractor shall deliver the Operator Manual in accordance with CDRL A069, according to the following schedule: PTM 1 shall be due no later than 30 days after Validation. PTM 2 shall be due no later than 30 calendar days prior to Verification. PTM 3 shall be due no later than 30 calendar days after Verification.

5.3 APS A-Kit and B-Kit Installation Instructions

5.3.1 The contractor shall develop, validate, and support the verification of the installation kit application. The contractor shall deliver draft modification instructions to support A-kit and B-kit installation at the test sites. The standard Abrams Reactive Armor Tile (ARAT) 2 weldments do not need to be included in the installation instructions, as they are covered in a separate TM and Modification Work Order (MWO). The installation kit and final modification instructions shall be included in the A-Kit13&P TM. The installation instructions shall follow the same documentation requirements as a MWO. The draft instructions shall be due no later than 30 calendar days prior to the Engineering Trial Fit (WD paragraph 4.4).

6.0 UMR Testing:

6.1 Test sites: The tests sites that require support for UMR testing are: Aberdeen Test Center (ATC), White Sands Missile Range (WSMR), Camp Grayling, RTC and YTC. Testing will take up to one year, starting as early as November 2017. USG testing will occur concurrently at the test sites.

6.2 APS A-Kit and B-Kit Installation Support: The contractor shall provide full time Field Engineering Representatives (FER) support to the USG installation and checkout of APS A-Kit and B-Kit in support of UMR testing at each test location. Each installation will to take a maximum of two weeks to install the A-kit and B-kit. The contractor shall provide on-call reach back support from contractor design engineers in the event of any test related issues.

6.3 UMR Testing Engineering Support: The contractor shall support USG UMR testing with FERs. The contractor shall plan for six months of on call support at each of the following test sites WSMR, ATC, YTC and RTC, for a total of 18 months of testing. The engineering support shall include assessment, root-cause analysis, and mitigation of any A-Kit findings found during testing. The FER shall maintain daily an Engineering Logistics and Status report that the USG can access if requested. The contractor shall provide on-call reach back design engineering support throughout testing for any issues that require assistance to the USG test centers and FER.

6.4 Camp Grayling Testing:

6.4.1 The contractor shall ship the GFE vehicle from GDLS Sterling Heights to Camp Grayling to support APS Original Equipment Manufacturer (OEM) SW checkout. The contractor shall remove the components applicable for shipping operations according to the Trophy Security Classification Guide prior to shipping the vehicle. The vehicle shall be shipped with the A-kit installed and the remaining GFE B-kit. The contractor shall re-install the B-kit components at Camp Grayling that were removed prior to shipping. Upon completion of testing at Camp Grayling, the contractor shall coordinate for shipping the vehicle back to GDLS Sterling Heights.

6.4.2 The contractor shall provide one FER for the complete period of testing at Camp Grayling, which is planned for five (5) weeks. The USG will notify the contractor 90 calendar days prior to the planned start of testing.

6.5 Safety Assessment Report (SAR): The contractor shall update an A-Kit Safety Assessment Report (SAR) which was delivered under the STS contract CLIN 1022. The A-Kit SAR shall be updated prior to the start of USG testing (Initial) and upon completion (Final) of the Engineering Trial Fit. The SARs shall be delivered in accordance with CDRL A040.

6.6 Army Board Review Support: The contractor shall support the Army Fuze and Safety Review Board (AFSRB), Insensitive Munition Board and Software Safety Boards. The support shall include coordination with the USG and preparation of presentation materials for to the review boards IAW CDRL A002.

7.0 Hardware Delivery

7.1 Hardware to be delivered to the test site locations for UMR testing includes:

7.2 The contractor shall deliver eight ESUs to support UMR testing.

7.2.1 Four GFE ESUs shall be updated to the configuration specified in WD paragraph 4.3.1.

7.2.1.1 Two ESUs will be delivered by the USG to the contractor as GFE no later than 30 calendar days after WD award. The contractor shall deliver the updated ESUs to the USG no later than 4 months after GFE delivery.

7.2.1.2 Two ESUs will be delivered to the contractor as GFE no later than 6 months after WD award. The contractor shall deliver the updated ESUs to the USG no later than 30 calendar days after ESU qualification testing is complete.

7.2.2 Four ESUs shall be built to the new configuration as specified in WD paragraph 4.3.1.

7.2.2.1 Two ESUs shall be delivered 4 months after WD award.

7.2.2.2 Two ESUs shall be delivered to the USG no later than 30 calendar days after ESU qualification testing is complete.

7.2.3 The ESUs used in qualification testing are not counted as part of these eight ESUs.

7.3 The contractor shall deliver six (6) complete APS A-Kits to the USG. The complete A-kit consists of wiring harnesses, cable guards, monolith brackets, weldments, bosses, and any other material required for installing the A-kit and hosting the B-kit. The contractor shall develop and present an A-Kit delivery plan at a SEIT Meeting that best matches USG test plan. One (1) A-kit shall include modified CREW II and TMS (non-armored) enclosures.

7.4 A-Kit System Support Package (SSP)

7.4.1 The contractor shall develop lists of recommended SSP items for each test site (ATC, WSMR, Camp Grayling, RTC and YTC), including rationale, and present at a SEIT Meeting.

7.4.2 The contractor shall provide one (1) A-Kit SSP at each test site.

8.0 Engineering Change Proposal (ECP) and Engineering Release Record (ERR)

8.1 Upon successful completion of the Engineering Trial Fit and incorporation of discovered issues, the contractor shall deliver an ECP releasing the APS A-kit to the M1A2 SEPv2 TDP to the COR for approval. The contractor shall treat ECP routing in the "urgent" status as defined in CDRL A123. The contractor shall deliver the ECP in accordance with CDRL A123.

8.2 The contractor shall process an ERR upon the USG approval of the ECP. The contractor shall deliver the ERR in accordance with CDRL A122.

9.0 Contract Data Requirements List (CDRL) Deliverables

9.1 A001 – Record of Meeting Minutes, Report

9.2 A002 – Presentation Material

9.3 A003 – Technical Report

9.4 A006 – Engineering, Logistics, and Program Management Work Directive Performance & Cost Report (PCR) shall be submitted for this WD under the Program Management WD #1000

9.5 A040 – Safety Assessment Report

9.6 A061 – Test/Inspection Program Report

9.7 A066 – Long Life Reusable Container

9.8 A069 – A-Kit Draft Operator Technical Manual (TM) pages

9.9 A071 - Field Maintenance Technical Manual for Abrams Tanks

9.10 A072 – A-Kit Technical Manual Development

9.11 A078 – Installation Instructions

9.12 A088 – A-kit Provisioning

9.13 A089 – Provisioning Parts List

9.14 A122 – Engineering Release Record

9.15 A123 – Engineering Change Proposal

10.0 Delivery Schedule

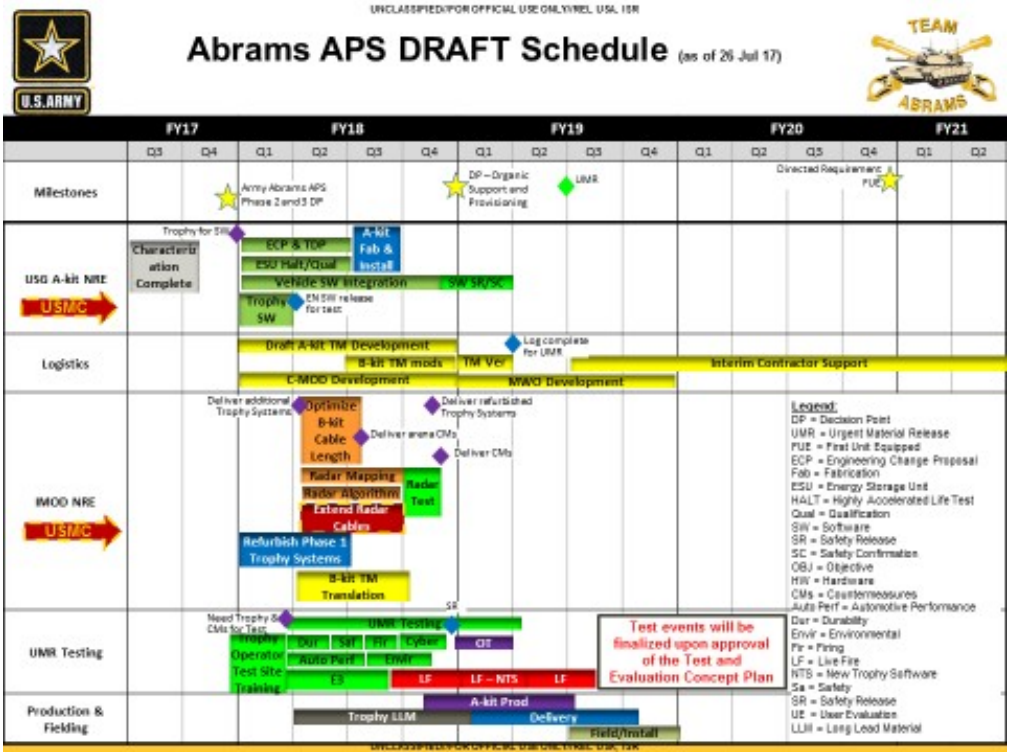
| | **Delivery Date (Calendar Days)** |
|---|---|
| GFI & Vehicle provided to contractor | 30 days after Work Directive Award (WDA) |
| 2 ESUs provided to contractor | 30 days after WDA |
| 2 ESUs provided to contractor | 6 months after WDA |
| 1 Trophy B-Kit to contractor | 4 months after WDA |
| Start of Work Meeting (SOWM) | 7 days after WDA |
| First SEIT Meeting | 7 days after SOWM, and then Bi-weekly |
| APS A-kit Requirements Meeting | 2 weeks after SOWM |
| SW Development Plan | Presented a SEIT 2 weeks after the Requirements Meeting |
| ESU Qualification Test Plan | 30 days prior to the start of Qualification testing |
| ESU Qualification Readiness Review | 1 week after COR approved ESU Qualification Test Plan |
| B-kit Cable Length | 90 days after WDA |
| IPR | 90 days after SOWM |
| A-Kit Safety Assessment Report | Initial – 60 days prior to the start of USG testing<br>Final – 60 days prior to the start of USG OT |

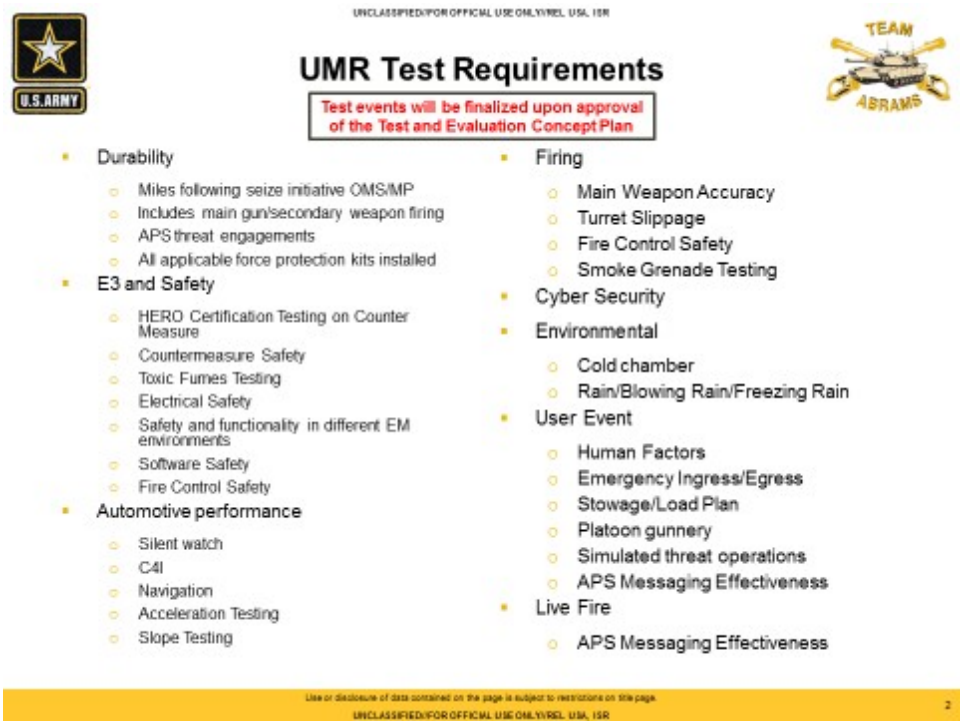
| | |
|---|---|
| A-Kit Operator Training | No later than 15 days prior to the start of testing |
| A-Kit Field Maintenance Manual Training | No later than 15 days prior to the start of testing |
| Engineering Data For Provisioning (EDFP) CDRL A088 | Draft – Due at the start of USG testing<br>Final – Due at the end of USG OT testing |
| Engineering Trial Fit | 60 days after IPR |
| ESU Qualification Test Report | 60 days after the completion of Qualification testing |
| Engineering Change Proposal | 30 days after Completion of the Engineering Trial Fit |
| Engineering Release Record (ERR) | 30 days after the ECP |

## 11.0 Exit Criteria

11.1 The completion of UMR test site support and submission of the ECP and Installation Instructions for USG approval.

## 12.0 Schedule


UNCLASSIFIED//FOR OFFICIAL USE ONLY//REL USA, ISR
Abrams APS DRAFT Schedule (as of 26 Jul 17)
U.S.ARMY
TEAM ABRAMS
FY17
FY18
FY19
FY20
FY21
Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2
Milestones
Army Abrams APS Phase 2 and 3 DP
DP – Organic Support and Provisioning
UMR
Directed Requirement / FUE
USG A-kit NRE
USMC
Trophy for SBCT
Characterization Complete
ECP & TDP
ESU Halt/Qual
A-kit Fab & Install
Vehicle SW Integration
SW SR/SC
Trophy SW
EN SW release for test
Logistics
Draft A-kit TM Development
Log complete for UMR
B-kit TM mods
TM Ver
Interim Contractor Support
C-MOD Development
MWO Development
IMOD NRE
USMC
Deliver additional Trophy Systems
Optimize B-Kit Cable Length
Deliver refurbished Trophy Systems
Deliver arena CMs
Deliver CMs
Radar Mapping
Radar Algorithm
Radar Test
Extend Radar Cables
Refurbish Phase 1 Trophy Systems
B-kit TM Translation
SR
Legend:
DP = Decision Point
UMR = Urgent Material Release
FUE = First Unit Equipped
ECP = Engineering Change Proposal
Fab = Fabrication
ESU = Energy Storage Unit
HALT = Highly Accelerated Life Test
Qual = Qualification
SW = Software
SR = Safety Release
SC = Safety Confirmation
OBJ = Objective
HW = Hardware
CMs = Countermeasures
Auto Perf = Automotive Performance
Dur = Durability
Envir = Environmental
Fir = Firing
LF = Live Fire
NTS = New Trophy Software
Sa = Safety
SR = Safety Release
UE = User Evaluation
LLM = Long Lead Material
Need Trophy & CMs for Test
UMR Testing
Trophy Operator Training
Test Site
Dur
Saf
Fir
Cyber
Auto Perf
Envir
E3
LF
LF – NTS
LF
CIT
Test events will be finalized upon approval of the Test and Evaluation Concept Plan
Production & Fielding
A-kit Prod
Trophy LLM
Delivery
Field/Install




13.0 Supplemental Information

13.1 Supplement 1 fixes an administrative error in WD paragraphs 9.5 and 6.5. The SAR is changed from A031 to the correct CDRL number A040.

**Government Concurrence / Approval**

| | | | |
|---|---|---|---|
| **PCO** | X<br>Lisa Behnke<br>Contracting Officer | **Approval Date:** | 27 October 2107 |