SOLICITATION, OFFER AND AWARD

1. This Contract Is A Rated Order Under DPAS (15 CFR 700) Rating Page of Pages DOA4

2. Contract Number 3. Solicitation Number W56HZV-17-R-0106

4. Type of Solicitation [ ] Sealed Bid (IFB) [ ] Negotiated (RFP) 5. Date Issued

6. Requisition/Purchase Number

7. Issued By Code W56HZV 8. Address Offer To (If Other Than Item 7) See Schedule

NOTE: In sealed bid solicitations ‘offer’ and ‘offeror’ mean ‘bid’ and ‘bidder’.

SOLICITATION

9. Sealed offers in original and copies for furnishing the supplies or services in the Schedule will be received at the place specified in item 8, or if handcarried, in the depository located in until (hour) local time (Date).

Caution - Late Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. For Information

A. Name B. Telephone (No Collect Calls) Ext. C. E-mail Address Call: Area Code Number Ext. 

11. Table Of Contents

( X ) Sec. Description Page(s) ( X ) Sec. Description Page(s)
Part I - The Schedule 1 Part II - Contract Clauses 1 I Contract Clauses 47
Part III - List Of Documents, Exhibits, And Other Attach. X J List of Attachments
Part IV - Representations And Instructions K Representations, Certifications, and Other Statements of Offerors
I Instructions, Conds., and Notices to Offerors M Evaluation Factors for Award

OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. Discount For Prompt Payment 10 Calendar Days (%) 20 Calendar Days (%) 30 Calendar Days (%) Calendar Days (%) 10 U.S.C. 2304(c)(9) 41 U.S.C. 253(c)(5) (4 copies unless otherwise specified)

14. Acknowledgment of Amendments (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):

15A. Name and Code Facility Address of Offeror 15B. Telephone Number Ext. 15C. Check if Remittance Address is Different From Above - Enter such Address In Schedule

16. Name and Title of Person Authorized to Sign Offer (Type or Print)

17. Signature 18. Offer Date

AWARD (To be completed by Government)

19. Accepted As To Items Numbered 20. Amount 21. Accounting And Appropriation

22. Authority For Using Other Than Full And Open Competition: 10 U.S.C. 2304(c)(9) 41 U.S.C. 253(c)(5) 23. Submit Invoices To Address Shown In Item (4 copies unless otherwise specified) 25


26. Name of Contracting Officer (Type or Print) 27. United States Of America 28. Award Date

(Signature of Contracting Officer)

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

AUTHORIZED FOR LOCAL REPRODUCTION Standard Form 33 (Rev. 9-97)
Previous edition is unusable Prescribed By GSA-FAR (48 CFR) 53.214(c)
SECTION A - SUPPLEMENTAL INFORMATION

Buyer Name: MARC ALDWIN M. LANDOY
Buyer Office Symbol/Telephone Number: CCTA-HTA-A/(586)282-8731
Type of Contract 1: Firm Fixed Price
Kind of Contract: Supply Contracts and Priced Orders

EXECUTIVE SUMMARY

*** End of Narrative A0000 ***

A.1 GENERAL OVERVIEW

The Request for Proposal (RFP) is hereby issued by the US Army Contracting Command-Warren (ACC-WRN) for the Family of Medium Tactical Vehicles (FMTV) Protection Kits. The FMTV Protection Kits consists of the B-Kit (58 or 78 gallon configuration), Underbody Armor Kit, and Underbody Counterweight Kit. For the purposes of this acquisition, a B-Kit consists of two crates, one with transparent and opaque armor panels and one with a Fuel Tank Fire Suppression Kit (FTFS), either 58 gallon FTFS (58 gallon B-Kit) or 78 gallon FTFS (78 gallon B-Kit). The Underbody Armor Kit includes a Lift Cylinders and Mounting Kit. An additional Underbody Counterweight Kit is required for installation on the M1078 LMTV Cargo when installing an Underbody Armor Kit.

A.2 ACQUISITION STRATEGY

This acquisition will be a FAR Part 15, Firm Fixed Price (FFP) contract. This proposed action will award an Indefinite-Delivery Indefinite-Quantity (IDIQ) contract consisting of five (5) Ordering Years. The Government will award a minimum of 316 each FMTV Protection Kits at the time of award. The maximum quantity which may be awarded is a total of 2,282 FMTV Protection Kits, regardless of configuration, under the subject IDIQ contract. The Government will award a single FFP contract on a competitive total small business set-aside basis with anticipated award in FY18, with Production Verification Kit deliveries beginning 240 days after contract award and production deliveries continuing up to approximately 80 months after contract award.

This procurement is subject to the availability of funds.

A.3 SOURCE SELECTION PROCEDURE

The Government will utilize Source selection evaluation procedures under this acquisition. The Government will select one offeror whose proposal provides the best value and meets the contract requirements.

A.4 CLASSIFIED INFORMATION

In order to meaningfully respond to the subject solicitation and be considered for award, the Offeror must be able to receive, view, house and safeguard SECRET materials at the time of proposal submission and during the life of the contract. In order to receive, view, house and safeguard SECRET materials, the Offeror shall possess the appropriate level of security. Offerors who are considering a subcontractor(s) who will receive, view, house and safeguard SECRET materials shall ensure that the subcontractor(s) also possess the appropriate level of security. The TACOM Intelligence and Security Office will verify all security information. The Offeror and the subcontractor(s) who do not possess the appropriate level of security to receive, view, house and safeguard SECRET materials will not be able to discuss or access key aspects of the program. Furthermore, the Government may reject the Offerors proposal pursuant to Paragraph M.2, Rejection of Offers and shall not be considered for award. The Government will not sponsor or in any way assist the Offeror and the subcontractor(s) in obtaining the appropriate level of security clearance.

A.5 FACILITY CLEARANCE

The Contractor shall maintain a valid Facility Clearance from Defense Security Service (DSS) for the entire duration of the contract. If the Contractor fails to maintain a valid Facility Clearance or the Contractors Facility Clearance is revoked for any reason, the Government may, by written notice, terminate the contract.

*** END OF NARRATIVE A0001 ***
SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

B.1. Price:

The price applicable to an individual order is the price for the ordering year in which the order is issued. The delivery date does not determine the contract year.

B.2. IDIQ Ordering Periods: The following definitions apply to the entire contract:

- **B.2.1.** First ordering year of the contract is the date of award plus 364 days.
- **B.2.2.** Second ordering year of the contract is 365 days through 729 days after contract award.
- **B.2.3.** Third ordering year of the contract is 730 days through 1,094 days after contract award.
- **B.2.4.** Fourth ordering year of the contract is 1,095 days through 1,459 days after contract award.
- **B.2.5.** Fifth ordering year of the contract is 1,460 days through 1,825 days after contract award.

B.3 Minimum Order and Maximum Order:

In accordance with FAR 52.216-19 "Order Limitations":

- **B.3.1** Minimum 5-year quantity: 316 total each(s) or Lot(s)/Package(s) (i.e. any Unit of Measure (UOM)) of any variation, in any combination or single type. For example: 100 LOTs/ PKGs of CLIN 0011 plus 100 EA of CLIN 0031 = 200 Minimum Quantity. This will be ordered at the time of the basic contract award.

- **B.3.2** Maximum 5-year quantity: 2,282 total each(s) or Lot(s)/Package(s) (i.e. any UOM) of any variation, in any combination or single type (as with the Minimum quantity).

B.4 Contract Line Numbering System (CLINs):

B.4.1 The numbering system on this Contract for CLINs shown in the schedule below is as follows:

Except for Test Support Kits included in the 0071, 0081 and 0091 series which may be ordered only in the first ordering year, the first three digits signify the item and the fourth (last) digit signifies the applicable contract year, i.e., CLIN 0011 is for the first item - first ordering year; CLIN 0012 is for the first item - second ordering year; CLIN 0013 is for the first item third ordering year, etc.

For first ordering year testing and follow on testing, the Contract will establish the following CLIN series: FAT Contractor Support 010X, PPA/CPAT 011X, PCAs 013X, Product Support Package 014X and CDRls 015X (Not Separately Priced).

B.4.2 This contract includes yearly Options for FAT support and Physical Configuration Audits (PCA), pursuant to H.X and FAR 52.217-7 Options for Increased Quantity Separately Priced Line Item. The Options are not subject to FAR 52.216-19.

B.5 Estimated Ordering Quantities:

The below information provides estimated quantities per ordering year. In accordance with FAR 52.216-22, these quantities are estimates only. Only the minimum quantity is guaranteed as specified in B.3.1 above and FAR 52.216-19.

**B.5.1 58-Gallon B-Kit NSN 2540-01-602-9659 P/N 57K6420-001**

Estimated Ordering Quantities:

- **Ordering Year 01**: 200 each B-Kits/50 ISOs
- **Ordering Year 02**: 188 each B-Kits/47 ISOs
- **Ordering Year 03**: 216 each B-Kits/54 ISOs
- **Ordering Year 04**: 76 each B-Kits/19 ISOs
- **Ordering Year 05**: 76 each B-Kits/19 ISOs

**B.5.2 78-Gallon B-Kit NSN 2540-01-602-9660; P/N 57K6420-002**

Estimated Ordering Quantities:
Ordering Year 01 164 each B-Kits/41 ISOs
Ordering Year 02 148 each B-Kits/37 ISOs
Ordering Year 03 172 each B-Kits/43 ISOs
Ordering Year 04 64 each B-Kits/16 ISOs
Ordering Year 05 64 each B-Kits/16 ISOs

B.5.3 58-Gallon B-Kit NSN 2540-01-552-7805

Estimated Ordering Quantities:
Ordering Year 01 4 each B-Kits
Ordering Year 02 4 each B-Kits
Ordering Year 03 4 each B-Kits
Ordering Year 04 4 each B-Kits
Ordering Year 05 4 each B-Kits

B.5.4 78-Gallon B-Kit NSN 2540-01-576-3447

Estimated Ordering Quantities:
Ordering Year 01 4 each B-Kits
Ordering Year 02 4 each B-Kits
Ordering Year 03 4 each B-Kits
Ordering Year 04 4 each B-Kits
Ordering Year 05 4 each B-Kits

B.5.5 Underbody Improvement Kit (UIK) P/N 57K6427

Estimated Ordering Quantities:
Ordering Year 01 0 each UIK
Ordering Year 02 0 each UIK
Ordering Year 03 0 each UIK
Ordering Year 04 200 each UIKs
Ordering Year 05 216 each UIKs

B.5.6 Underbody Counterweight Kit P/N 57K6428

Estimated Ordering Quantities:
Ordering Year 01 0 each Underbody Counterweight Kits
Ordering Year 02 0 each Underbody Counterweight Kits
Ordering Year 03 0 each Underbody Counterweight Kits
Ordering Year 04 100 each Underbody Counterweight Kits
Ordering Year 05 100 each Underbody Counterweight Kits

*** END OF NARRATIVE B0001 ***
C.1 GENERAL

The Contractor, acting as an independent Contractor and not as an agent or employee of the US Government, shall furnish all supplies, data and services as required under this Contract.

C.1.1 OBJECTIVE

The Contractor shall produce FMTV Protection Kits, arranged in the following configurations:

a. NSN 2540-01-602-9659 (P/N 57K6420-001): FMTV 58 gallon B-Kit (armor package with 58-gallon Fuel Tank Fire Suppression [FTFS]), packed four (4) each B-Kits, in an ISO container in accordance with (IAW) Commercial Item Description (CID) A-A-59272, Type II.

b. NSN 2540-01-602-9660 (P/N 57K6420-002): FMTV 78 gallon B-kit (armor package with 78-gallon FTFS), packed four (4) each B-Kits, in an ISO container IAW CID A-A-59272, Type II.

c. NSN 2540-01-552-7805 (P/N 57K6013): FMTV 58 gallon B-Kit (opaque and transparent armor package with 58-gallon FTFS), packed one (1) each B-Kit, IAW the Special Packaging Instruction (SPI), AK15527805, for LTAS B-Kits.

d. NSN 2540-01-576-3447 (P/N 57K6414): FMTV 78 gallon B-Kit (opaque and transparent armor package with 78-gallon FTFS), packed one (1) each B-Kit, IAW the SPI, AK15763447, for LTAS B-Kits.

e. P/N 57K6434: FMTV Underbody Armor Kit (armor panels, blast seats, reinforced cab doors, and required hardware with Cab Lift Cylinders and Mounting Kit, P/N 57K6430), packed four (4) each Underbody Armor Kits, in ISO container IAW CID A-A-59272, Type II.

f. P/N 57K6435: FMTV Underbody Counterweight Kit (steel plates and required hardware), required for installation on M1078 Cargo variant only, packed four (4) each Underbody Armor Kits, in TRICON ISO container IAW MIL-PRF-32349, Type 2.

The Contractor shall begin production of the FMTV Protection Kits following successful completion of testing called out in E.2.

C.1.1.1 FMTV Protection Kits Technical Data Package (TDP).

The Contractor shall produce the FMTV Protection Kits IAW the Government provided TDPs (Attachment 0001, "Technical Data Packages [TDP]"). Certain portions of the TDP reference classified documents. Requirements for requesting classified documents are found in C.1.2.1. The Contractor shall begin production of the FMTV Protection Kits following successful completion of testing called out in E.2.

C.1.1.2 ISO Container.

ISO containers shall be IAW CID A-A-59272, dated 18 June 2003, Type II (Opening doors on both ends of the container). The ISO container dimensions shall be 20 foot (ft) x 8 ft x 8 ft. ISO containers shall be new OR one time usage only and shall be IAW inspection criteria included in Attachment 0002, ISO and TRICON ISO Container Inspection Criteria.

C.1.1.3 TRICON ISO Container.

TRICON ISO containers shall be IAW MIL-PRF-32349, dated 24 August 2011, Type 2 (Two sets of double doors, located on each of the 6 ft 5-
1/2 inch sides curb and road sides). The TRICON ISO container dimensions shall be 6 ft 5-1/2 in long by 8 ft wide by 8 ft high. This Section C.1.1.3 supersedes Section 3.3 Operating and Design requirements. Description 3.3.1 of MIL-PRF-32349, as one time use or new materials or components may be used as part of any TRICON. All ISO containers shall adhere to the ISO inspection criteria included in Attachment 0002 ISO and TRICON ISO Container Inspection Criteria.

C.1.1.4 Finish/Color.

The Contractor shall apply the following finish/color treatment to the FMTV Protection Kit components:

a. The finish/color for the FTFS shall be IAW the TDP with color Black (Chip Number 37030) IAW SAE AMS-STD-595.

b. The default finish/color for the remainder of the FMTV Protection Kit shall be IAW the TDP with topcoat color Tan 686A (Chip Number 33446) IAW SAE AMS-STD-595. In the event a component within the FMTV Protection Kit TDP specifies a topcoat color Green 383 (Chip Number 34094) instead, the tan color requirement shall take precedence.

c. In the case of green option kit requirements, the finish/color shall be IAW C.1.1.4.b above, with an additional topcoat overspray of color Green 383 (Chip Number 34094) IAW SAE AMS-STD-595.

C.1.1.4.1 The Government will identify required paint color(s) in each individual delivery order.

C.1.1.5 Installation Instructions.

Along with the parts necessary to complete the FMTV Protection Kits, the Contractor shall include one (1) set of Installation Instructions applicable to each of the FMTV Protection Kits inside its corresponding crate. The Contractor shall provide the Installation Instructions in hard copy, packaged in a sealed waterproof bag. The B-Kit with FTFS, as well as Underbody Armor Kit Installation Instructions shall be included as part of the Bill of Material (BOM) for their respective TDP drawings. For the Underbody Counterweight Kit, the Installation Instructions shall be included as a section of the Underbody Armor Kit Installation Instructions. The 58-gallon and 78-gallon B-Kit installation instructions are located in the B-Kit TDP, Attachment 0001. The Underbody Armor Kit installation instructions are Attachment 0014.

C.1.2 Program Security Requirements.

C.1.2.1 Controlled Unclassified Information (CUI). When working with or handling any Classified or CUI, the Contractor shall fully adhere to the guidance and instructions provided in Attachment 0003, DD Form 254.

If, either the Contractor and/or any subcontractor(s), has the need to view or receive SECRET materials, a request by the Contractor to view or receive SECRET materials shall be submitted to the PCO. The request shall include documentation indicating that the Contractor and any subcontractor(s), who has the need to view or receive SECRET materials, possess the appropriate level of security to be able to receive, view, house and safeguard SECRET materials. The Contractor, who has the need to view or receive SECRET materials, can view or receive SECRET materials by either, visiting TACOM Warren OR through receipt in registered mail. Subcontractors must work with the prime contractor to gain access to classified provided to the prime during the course of this contract. Subcontractors must have a validated need to know as well as an active Facility Clearance before the prime can release any classified to the subcontractor.

C.1.2.2 The Contractor shall not release any information or data to third parties without express written approval of the PCD.

C.1.3 Program Management.

C.1.3.1 Data Deliverables. The Contractor shall deliver all data in the English language. All electronic data delivered shall be in an editable Microsoft (MS) Office Suite and Windows 2007 compatible format unless specified otherwise in the CDRL. The Contractor shall annotate the following information in the electronic cover letter for the submission: Contract Number, CDRL, Revision Number, and Item (A001-002 TRANS RPT). Delivery Type (Draft, Final) Due Date Submittal Date Contractor Name. The Contractor shall include a revision record that identifies the corresponding revision annotation, the due date, and the description of the change For example: A001-002 is the second submission of CDRL A001. The Contractor shall deliver all electronic data via Windchill unless specified differently in the CDRL.

C.1.3.1.1 Access to Windchill.

The Contractor shall obtain access to Advance Center for Engineering (ACE)/Windchill for input of Engineering Change Proposals (ECPs), Value Engineering Change Proposals (VECPs), and Requests for Variance (RFVs). The Contractor may obtain the ACE/Windchill access forms by going to: https://ace2.tacom.army.mil/newuser/.

C.1.3.1.2 Training for Windchill.

Generic ACE/Windchill training is available at the following: https://ace2.tacom.army.mil/support/documentation.html. Refer to Attachment 0006, Windchill User Guide for a PD MTV specific Windchill user guide and best practices.
C.1.3.3 Meetings, Reviews and IPT Requirements.

The Contractor shall conduct the following meetings, unless otherwise notified by the PCO in writing:

C.1.3.3.1 Contract Start of Work (SOW) Meeting.

A SOW meeting shall be conducted at the Contractors facility within thirty (30) calendar days after contract award. It shall last no longer than two (2) business days. This meeting shall review the Contractors systems and schedules that shall be utilized during this contract. The Contractor shall coordinate specific content of the meeting with the PCO. The Contractor shall prepare and deliver an agenda or read ahead for the meeting at least three (3) working days prior to the SOW meeting. The Contractor shall prepare and deliver minutes derived from the meeting with a list of attendees within three (3) working days after the meeting. The Contractor shall deliver the agenda, read ahead, and minutes IAW CDRL A001, Agenda, Read Ahead, and Minutes.

C.1.3.3.2 Monthly Management Review (MMR) Meeting.

Beginning one-month after the Start of Work Meeting, the Contractor shall schedule and participate in a MMR to be held at a mutually agreed upon facility or via video teleconference (VTC) between the Contractor and the Government. VTC, in lieu or actual face-to-face meeting shall be the preferred method for conducting the MMR. The review shall be held on a monthly basis and shall last no longer than one business day. The Contractor shall prepare and deliver a read ahead briefing package for the meeting at least three (3) working days prior to each scheduled meeting. The Contractor shall prepare and deliver minutes derived from the meeting with a list of attendees within three (3) working days after the meeting. The Contractor shall deliver the read ahead and minutes IAW CDRL A001, Agenda, Read Ahead, and Minutes.

The MMRs shall include a review of the following areas:

a. Engineering and Configuration Management Review
b. Product Assurance (Quality) Review
c. Test Management Review
d. Integrated Logistics Support Review
e. Business Management and Contracts Review
f. Program Management Review
g. Program Security
h. Production and Shipping Status
i. Program Risks

C.1.3.3.3 Integrated Product Team (IPT) Meeting.

Starting with the ordering of production hardware, the Contractor shall schedule and participate in a Production IPT meeting to be held at a mutually agreed upon facility or via teleconference between the Contractor and the Government. The meeting shall be held on a weekly basis (unless otherwise mutually agreed upon) and shall last no longer than two hours. The Contractor shall have representation from the functional areas consisting of engineering, quality, logistics, CM, and production. The Contractor shall prepare and deliver an agenda or read ahead for the meeting at least one (1) working day prior to each scheduled meeting. The Contractor shall prepare and deliver minutes derived from the meeting with a list of attendees within three (3) working days after the meeting. The Contractor shall deliver the agenda, read ahead, and minutes IAW CDRL A001, Agenda, Read Ahead, and Minutes.

C.1.3.3.4 Meeting Management.

C.1.3.3.4.1 Security and Anti-terrorism Initiatives.

The Contractor shall comply with all security requirements and regulations for meetings, activities or events that require attendance on a DoD installation.

C.1.3.3.5 Facility Access.

The Government will provide information to support the Contractors access to Government facilities and locations in order to support this contract. The Contractor shall ensure designated Government personnel have access to the Contractors facility in support of this contract.

C.2 CONFIGURATION MANAGEMENT
The Contractor shall use MIL-HDBK-61A(SE), Configuration Management Guidance as a reference for Configuration Management (CM).

C.2.1 Production Baseline Configuration.

The Government provided FMTV Protection Kit TDPs (Attachment 0001, "Technical Data Packages (TDP)") are the official production baseline configuration. The Contractor shall not implement any changes to the production configuration (to include Configuration Control Board (CCB) approved ECPs, VECPs, and RFVs) without prior written approval by the POC.

C.2.2 Changes to the Production Baseline Configuration.

The Contractor shall propose changes to the production baseline configuration via the submission of change packages, which include Engineering Change Proposals (ECPs), Value Engineering Change Proposals (VECPs) and Requests for Variance (RFVs). ECPs affect a permanent change to the production baseline configuration and Protection Kits TDP. VECPs affect permanent changes to the production configuration where cost savings are applicable due to impacts related to the Protection Kits TDP, Integrated Logistics Support (ILS), Manpower Personnel Integration (MANPRINT), and Life Cycle Cost (LCC). RFVs temporarily deviate or waive from production baseline requirements for a specified period of time or range of serial numbers.

All ECP, VECP and RFV packages shall contain supporting data in order for the Government to evaluate each proposed change. Each change package shall also include new drawings (if applicable) and redlined drawings (for drawing revisions). ECPs, VECPs and RFVs generated under this contract shall ensure that the changed FMTV Protection Kits meet or exceed the performance specifications of the production baseline configuration. The Contractor shall develop and deliver all new and redlined engineering drawings IAW MIL-STD-31000, Department of Defense Standard Practice: Technical Data Packages and industry drawing standards, ASME Y14.100 Engineering Drawing Practices, ASME Y14.34 Associated Lists, ASME Y14.35, Revision of Engineering Drawings and Associated Documents and ASME Y14.24 Types and Applications of Engineering Drawings. The Contractor shall utilize tolerance methods where applicable per ASME Y14.5, Dimensioning and Tolerancing. Engineering drawings and associated lists shall provide the design, engineering, manufacturing and quality assurance information sufficient to procure and or manufacture an item without additional design engineering effort or recourse to the original design activity. Drawings prepared for items developed with funds of this contract by the Contractor and or Subcontractor(s) shall be provided with unlimited rights to the extent permitted under DFARS 252.227-7013, DFARS 252.227-7014, DFARS 252.227-7015. The Contractor shall present the list of exceptions and engineering drawings developed at private expense under DFARS 252.227-7017.

C.2.3 Documented Processes and Information for Submission of ECPs, VECPs and RFVs.

C.2.3.1 ECP, VECP and RFV Number Assignment.

The Contractor shall request ECP or VECP numbers from PD MTV, MTV Configuration Management Functional Technical Representative. The Contractor shall assign RFV numbers using the XXXXXXX format, where XXX is an abbreviation for the Contractors name and #### is a four (4) digit number designating each unique RFV and starting with 0001. These numbers shall be used on an individual basis as a control identifier for the change packages. Once a number is assigned to the first submission of a change package, that number shall be retained for all subsequent submissions of that change package. Once a change package is CCB approved, it cannot be changed, supplemented, or revised. A new ECP, VECP or RFV shall be developed and delivered to correct, change, or amend an existing approved ECP, VECP or RFV. When a change package requires change or revision prior to approval, the changed or revised proposal shall be identified by adding the identifier "R#", where R# is the number of the revision. These identifiers shall become a permanent part of the change package number. The complete change package number including change and revisions identifiers shall not exceed 15 characters.

C.2.3.2 Engineering Change Proposals (ECPs).

The Contractor shall prepare and deliver ECPs IAW CDRL C001, Engineering Change Proposals (ECP) and the forms and instructions provided in Attachment 0007, “Instructions for Preparing ECP Forms”. Optionally, the Contractor may choose to develop its own forms for the submission of ECPs or VECPs. These forms shall contain all the same information required by the standard ECP Forms. PD MTV Configuration Management Office will review and approve the Contractors forms prior to use. Each ECP shall contain an ECP Enclosure List (see Section C.2.3.2.2) and ECP Interchangeability Form (see Section C.2.3.2.3).

C.2.3.2.1 Justification for Permanent Change.
With each ECP delivered, the Contractor shall justify the need for making a permanent change to the production baseline configuration and the FMTV Protection Kits TDP. This justification shall address what effects (impacts) the proposed change will have on the production, fielding, retrofit, spare or repair parts, compatibility with previously fielded FMTV Protection Kits, performance, manufacturing, quality, maintenance, packaging, MANPRINT, logistics, safety, transportability, cost (production and support), electromagnetic environmental effects and survivability (if applicable).

C.2.3.2.2 ECP Enclosure List.

For each ECP, the Contractor shall prepare an ECP Enclosure List and incorporate it as part of the ECP package. The list shall identify all documents contained in the ECP package. In addition, the list shall identify all end items affected, other ECPs pending against the documents listed, and National Stock Numbers (NSNs) impacted by part number changes referenced in the ECP. Instructions for completing the ECP Enclosure List are found in Attachment 0007, "Instructions for Preparing ECP Forms".

C.2.3.2.3 ECP Interchangeability Form.

For each ECP, the Contractor shall provide an ECP Interchangeability Form to document the effect the proposed change has on interchangeability or when there is an "Add and or Delete List" of components. The Interchangeability Form shall follow the ECP Forms and precede the redlines and drawings in each change package. Instructions for completing the ECP Interchangeability Form are found in Attachment 0007, "Instructions for Preparing ECP Forms".

C.2.3.2.4 Add/Delete List.

For each ECP, the Contractor shall provide an ECP Add/Delete List as part of the ECP package. The list shall identify part and assembly numbers that are added or deleted from each drawing number within the ECP package. Each part or assembly number shall be described with categories consisting of Notice of Revision number, drawing number, parent nomenclature, TACOM part number, component nomenclature, add and remove quantity, and find number within the drawing.

C.2.3.3 Value Engineering Change Proposals (VECPs).

The Contractor shall prepare and deliver VECPs in the same manner as standard ECPs (see Section C.2.3.2) and pursuant to the VE Clause, FAR 52.248-1.

C.2.3.4 Request for Variance (RFV).

When a variance to the FMTV Protection Kits TDP or other contract requirement is considered by the Contractor, the Contractor shall prepare and deliver an RFV IAW CDRL C002, Request for Variance (RFV) and the forms and instructions provided in Attachment 0008, "Instructions for Preparing RFV Forms". Optionally, the Contractor may choose to develop its own forms for the submission of RFVs. These forms shall contain all the same information required by the standard RFV Forms. PD MTV Configuration Management Office will review and approve the Contractors forms prior to use. The RFV shall be annotated by the Contractor to reflect the anticipated production effectivity point by kit serial number and date. RFVs shall contain supporting data to fully understand the proposal and make a determination for approval. For approved RFVs that would require a decrease to the contract price, the Contractor shall deliver cost proposal data with the RFV package. The Contractor shall prepare cost proposal data IAW Section 1 of this contract and contain pricing data to substantiate cost evaluation, negotiation and an equitable adjustment to the contract.

C.2.3.5 Delivery of Data.

The Contractor shall deliver all ECPs, VECPs and RFVs to the Government for review IAW Section C.1.5.1 and C.1.5.2.

C.2.3.6 Government Review.

The Government is the Original Design Authority for all products and data developed under this contract and, as the Current Document Change Authority (CDCA), is the only entity with decision authority over the items configuration and respective design data. The
Governments CCB will review each ECP, VECP and RFV and either reject the requested change, return it to the Contractor for further revision or approve the change package. The Contractor shall review and respond to all non-concurrence notifications and questions prior to the Government CCB providing its final decision. The Government may require the Contractor to perform additional tests prior to Government approval to verify acceptability of any changes the Contractor proposes. The Government will determine the extent of testing up to and including a complete First Article Inspection (see Section E.2.4). The Contractor shall perform the tests at no additional cost to the Government. The Government may disapprove changes that will have an adverse effect on performance, reliability, maintainability or repair. The Contractor shall not incorporate CCB approved change packages into production until incorporation of the change package, via contract modification.

C.2.3.7 Effectivity Certification.

Changes resulting from PD MTV approved ECPs, VECPs or RFVs shall be incorporated to the production line only upon PCO notification of a contract modification. Each ECP, VECP or RFV shall be applied to the production line at a single cut-in point (single kit) within six (6) months of the ECP, VECP or RFV approval letter is submitted into Windchill unless an exception is approved by the Government via a PCO letter. The Contractor shall submit an exception request to the Government should the above not be met. The Contractor shall obtain Defense Contract Management Agency (DCMA) verification before electronically delivering the effectivity form to the Government IAW CDRL C003, "Configuration Status Accounting Information".

C.2.3.8 Responsibility for Cost of Changes.

C.2.3.8.1 Contractor Requested.

1. The Government will not be responsible for additional costs to the kits that result from a Contractor requested, Government approved ECP or RFV unless the PCO grants approval and modifies the requested change into the contract.

2. When a change results in reduced costs to the Contractor, the Government may obtain an equitable reduction in contract price. The Contractor may be required to certify cost impacts and the Government may conduct post-change approval audits.

3. The Government will not be liable for any cost the Contractor incurs due to delay in contract performance as a result of any of the Contractor requests for change.

C.2.3.8.2 Government Directed.

If the Government changes the FMTV Protection Kits production configuration, the PCO will direct the contractor to submit an ECP and price proposal (with certified cost and pricing data when required) covering the configuration change(s).

C.2.3.9 Responsibility for Failure Due to Changes.

The Governments approval of the Contractors requested ECP, VECP or RFV does not relieve the Contractor of its responsibility to furnish conforming parts. The Contractor shall accept responsibility for any failure that renders the FMTV Protection Kits non-mission capable.

C.2.4 Physical Configuration Audits (PCAs).

C.2.4.1 The Contractor shall perform and Government personnel will witness PCAs to validate the FMTV Protection Kits production configuration. The PCAs shall conform to the FMTV Protection Kits TDP, IAW Attachment 0001, Technical Data Packages. Guidance for conducting the PCA is contained in SAE EIA-649-1, "Configuration Management Requirements for Defense Contracts". The Contractor shall deliver for Government approval, a detailed Physical PCA plan for the Pre-Production Kits PCA, IAW CDRL C004, Physical Configuration Audit (PCA) Plan, within thirty (30) days of contract award.

C.2.4.2 During the period of this contract and at the Governments discretion, the Contractor may be required to perform follow-up PCAs, particularly following a contract modification to incorporate an ECP, VECP or RFV package to this contract. The Contractor shall deliver for Government approval, a detailed Physical Configuration Audit Plan for the follow-up PCA, IAW CDRL C004, "Physical Configuration Audit (PCA) Plan", within thirty (30) days after receipt of the order requiring the PCA. Hardware delivered for the PCA shall be built to the current Production Level drawings.
C.2.4.3 The PCAs shall be performed on the items selected by the Government. The Government will choose drawing characteristics to verify during the PCA. The Government will identify the items to be audited based on production level drawings or ERR submittal. The Contractor shall deliver the PCA within ninety (90) days of Government request unless otherwise agreed upon and authorized by the PCO. For PCAs that are expected to take five (5) calendar days or longer, the Contractor shall submit a PCA schedule IAW CDRL C004, "Physical Configuration Audit (PCA) Plan", which will be approved by the Government. The Government will select a sample of parts as delineated in the Government approved Configuration Audit Plan. The sample size and Verification Level (VL) of a component, system and/or sub-system will be specified by the Government IAW MIL-STD-1916, DoD Test Method Standard, DoD Preferred Methods for Acceptance of Product.

C.2.4.4 The Contractor shall provide email notification to PD MTV Engineering, Quality, and the cognizant ACO no less than thirty (30) days prior to conducting a PCA.

The Contractor shall provide an agenda IAW CDRL A001, "Agenda, Read Ahead, and Minutes". The Government Quality Assurance Representative(s) will be present during the execution of the PCA.

The Contractor shall ensure that the PCA report contains the following data:

i. All first piece inspection reports.
ii. Material, hardness and finish certifications.
iii. All subassembly inspection and material, hardness and finish certifications.

The Contractor shall provide additional deliverables in the PCA report as defined in SAE EIA-649-1, "Configuration Management Requirements for Defense Contracts".

C.2.4.5 The Contractor shall audit all production representative parts, assemblies, subassemblies, as well as Quality Assurance Provisions designated for PCA to ensure compatibility with the drawings.

C.2.4.6 If the Contractor or the Government finds no difference between the PCA item, the production level drawings, and related quality assurance technical data, the Contractor shall deliver a final PCA report fifteen (15) days after PCA completion, including the PCA Inspection Reports for Government approval IAW CDRL C004, "Physical Configuration Audit (PCA) Report".

C.2.4.7 If deficiencies are found in the hardware during the PCAs that differ in fit, form, function, Geometric Dimensioning and Tolerancing (GD&T), or have a logistics impact from the FMTV Protection Kits TDP, the Contractor shall initiate corrective action to correct the deficiencies at no additional cost to the contract. General hardware characteristics such as component workmanship i.e., poor soldering on a circuit card, or burns on a component, shall be corrected. The Contractor shall request corrections to drawing deficiencies such as spelling errors, drafting format deficiencies, and incorrect dimensioning at the Governments discretion. Requested corrections that are validated, will be completed by the Government via in house ECP processes.

C.2.4.8 In the event hardware deficiencies are not resolved and corrected, the Contractor shall be deemed to have failed to make delivery within the meaning of the default clause of this contract.

C.2.4.9 The Government reserves the right to stop acceptance of all Protection Kits if the PCA is not completed within the schedule specified in the approved PCA plan. All costs associated with the contract due to failure to complete the PCA as scheduled (to include corrective actions) in the approved PCA plan shall be borne by the Contractor.

C.2.5 Subcontractors Configuration Management.

The Contractor shall flow down configuration management policies and requirements to their Subcontractors. This flow down of requirements shall be part of the Contractors sub-contract or purchase order award. The configuration disciplines to be required of Subcontractors shall include configuration identification, configuration control, configuration status accounting, and configuration audits. The Contractor shall impose configuration management requirements on Subcontractors to maintain the Contractors configuration management system and the production configuration.

C.2.5.1 The Contractor shall require Subcontractors to notify the Contractor of changes that impact form, fit, function, interchangeability, and changes which affect part identification or changes which impact the safety, maintainability, reliability, or supportability of the supplied items.
C.2.5.2 The Contractor shall provide the Government with a copy of their plan to manage Subcontractors within 60 days of the contract award IAW CDRL C005, "Subcontractor Flowdown Plan". The plan shall:

a. Detail and define all contract requirements, to include Configuration Management, Quality, Integrated Logistics Support, and Information Assurance, of this contract that are flowed down and required to Sub-contractor(s).

b. Detail and define how the Contractor will manage, document and audit Subcontractor(s) compliance.

C.3 SUPPORT PACKAGE

C.3.1 Product Support Package Plan (PSPP)
The Contractor shall develop a PSPP describing how the Contractor plans to support PSP requirements for Production Verification Test. The Contractor shall develop and submit the PSPP IAW CDRL C006, Product Support Package Plan (PSPP).

C.3.3 Product Support Package (PSP): In support of Production Verification Test (PVT) events, the Contractor shall prepare and deliver a PSP IAW CDRL C007, Product Support Package. The Contractor shall bear sole responsibility that:
- The PSP supports the current configuration
- The PSP is correct and complete
- Fulfillment of PSP shortages or deficiencies

The Contractor shall mark each individual item in the PSP with the NSN, CAGE, part number, quantity, and nomenclature. The Contractor shall conduct a joint inventory with the Government before Government acceptance of the PSP. The Contractor shall deliver a PSP consisting of the items in quantities detailed in the table below.

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>NOMENCLATURE</th>
<th>QTY</th>
<th>UI</th>
<th>NSN</th>
</tr>
</thead>
<tbody>
<tr>
<td>12532048-002</td>
<td>SEAL DOUBLE BULB</td>
<td>12</td>
<td>METERS</td>
<td>5330-01-645-7301</td>
</tr>
<tr>
<td>12532048-001</td>
<td>SEAL DOUBLE BULB</td>
<td>12</td>
<td>METERS</td>
<td>5330-01-585-0124</td>
</tr>
<tr>
<td>12505414-004</td>
<td>SEAL CLOSED CELL</td>
<td>12</td>
<td>METERS</td>
<td>5330-01-572-5120</td>
</tr>
<tr>
<td>12505430</td>
<td>SEAL WEAPON STATION</td>
<td>4</td>
<td>EACH</td>
<td>5330-01-567-9060</td>
</tr>
</tbody>
</table>

C.3.3.1. The Contractor shall bear sole responsibility for and rectify any PSP shortages or deficiencies identified during the joint Government and Contractor inventory. The Contractor shall rectify PSP shortages or deficiencies within 24 hours of notification.

C.3.3.2 The Contractor shall propose updates to the PSP when required due to PVT or configuration changes. The Government will analyze and approve any proposed changes to the PSP. The Contractor shall submit a request for an equitable adjustment to the contract for the cost of the additional parts needed to complete PVT.

*** END OF NARRATIVE C0001 ***
SECTION D - PACKAGING AND MARKING

D.1 PRESERVATION AND PACKAGING

D.1.1 Delivery of Hardware:

The contractor shall preserve and package special purpose kits in accordance with clause 52.211-4514.

D.2 HEAT TREATMENT AND MARKING OF WOOD PACKAGING MATERIALS

D.2.1:

In accordance with DOD 4140.625-M and the requirements of the International Standards for Phytosanitary Measures 15 (ISPM), Regulation of Wood Packaging Material in International Trade, dated 14 January 2016, (hereinafter ISPM 15), the following commercial heat treatment and marking process has been approved by the American Lumber Standards Committee (ALSC) and is required for all Wood Packaging Material (WPM).

D.2.2:

Boxes/pallets and any wood used as inner packaging made of non-manufactured wood shall be heat-treated. All Wood Packaging Material (WPM) using a conventional steam or dry kiln heat chamber (treatment code for the mark: HT) shall be heat treated to a minimum core temperature of 56 degrees Celsius for a minimum of 30 minutes, and certified by an agency accredited by the ALSC in accordance with Wood Packaging Material Policy and Wood Packaging Material Enforcement Regulations (see URL: http://www.alsc.org). WPM heat-treated wood using dielectric heating (treatment code for the mark: DH) shall follow the requirements in ISPM 15, and shall be certified by an agency accredited by the ALSC in accordance with Wood Packaging Material Policy and Wood Packaging Material Enforcement Regulations (see URL: http://www.alsc.org). The box/pallet manufacturer and the manufacturer of wood used as inner packaging shall ensure the materials used in manufacture can be traced to the original source of heat treatment, and that the original source of the heat treatment obtained the necessary certifications.

D.3 Preservation, Packing and Marking. The contractor shall provide all labor, supervision, tools, equipment, technical assistance, and materials to complete the kit packaging and preparation for shipping.

D.4 Packaging. Preservation and Packing shall be in accordance with MIL-STD-2073 and the Special Packaging Instructions (SPI) - Attachment 0009. The SPI for the B-Kit with 58 gallon FTFS is No. AK15527805, Revision M, and the SPI for the B-Kit with 78 gallon FTFS is No. AK15763447, Revision M. B-Kit components shall be free of dirt and other contaminants. Hardcopies of Installation Instructions shall be included and packaged.

D.4.1 Special Packaging Instructions do not currently exist for the Underbody Armor Kit. The Contractor shall develop and provide packaging for the Underbody Armor Kit in accordance with paragraph D.8-D.12. The overall dimensions of four (4) crates shall be able to fit into an ISO container in accordance with D.4.4.

D.4.2 Special Packaging Instructions do not currently exist for the Underbody Counter Weight kit. The Contractor shall develop and provide packaging for the Underbody Counter Weight kit in accordance with paragraph D.8-D.12. The overall dimensions of four (4) crates shall be able to fit into a TRICON container in accordance with D.4.5.

D.4.3 Armor Kits NSN 2540-01-602-9659 and 2540-01-602-9660: The Contractor shall provide ISO containers IAW with commercial item description (CID) A-A-59272 Attachment 0010, ISO Container Commercial Item Description (A-A-59272). The ISO container shall be Type II, with opening doors on both ends of the container. The ISO container dimensions shall be 20 foot (ft) x 8 ft x 8 ft. The contractor shall load four (4) each armor crates and four (4) each FTFS crates of the same type four (4) 58 gallon kit(s) or four (4) 78 gallon kit(s) following acceptance into the ISO containers (see Attachment 0022, ISO Packaging Process, for layout). This Section D.4.3 supersedes Section 3.2 - Description and Section 3.2.1 - Standard product, of the CID A-A-59272, as all ISO containers shall be new OR one time usage only. All ISO containers shall adhere to the ISO inspection criteria included in Attachment 0002, ISO and TRICON ISO Container Inspection Criteria.

D.4.4 Underbody Armor Kits: The contractor shall provide ISO containers IAW with ISO Container Commercial Item Description (CID) (A-A-59272) Attachment 0010. The ISO container shall be Type II, with opening doors on both ends of the container. The ISO container dimensions shall be 20 foot (ft) x 8 ft x 8 ft. The contractor shall load four (4) each Underbody Armor Kit crates following acceptance into the ISO containers. This Section D.4.4 supersedes Section 3.2 - Description and Section 3.2.1 - Standard product, of the CID A-A-59272, as all ISO containers shall be new OR one time usage only. All ISO containers shall adhere to the ISO and TRICON ISO Container Inspection Criteria included in Attachment 0002.

D.4.5 Underbody Counterweight Kits: The Contractor shall provide TRICON ISO Containers IAW with paragraph C.1.1.3.
D.5 Marking. The contractor shall be responsible for application of the following special markings: Shelf Life, hazardous material, structural, and special handling markings. The Contractor shall staple one LTAS sticker to the side of each armor crate and each FTFS kit crate. The Contractor shall supply LTAS stickers IAW Attachment 0011, LTAS Sticker Drawing.

D.5.1 ISO Markings. The outside of the 20-foot ISO and TRICON ISO containers shall be marked with an Item unique identification (IUID) tag IAW MIL-STD-130N W/Change 1 dated 16 November 2016. The IUID tag shall state either:

- B-Kits and 58 Gal FTFS (4 each); NSN 2540-01-602-9659; Serial Numbers for all kits
- B-Kits and 78 Gal FTFS (4 each); NSN 2540-01-602-9660; Serial Numbers for all kits
- Underbody Armor Kits (4 each); NSN once assigned; Serial Numbers for all kits
- Underbody Counterweight Kits (4 each); NSN once assigned; Serial Numbers for all kits

The contractor shall affix these tags to an outside door on each side of each ISO container.

D.5.2 Stenciling: The Contractor shall stencil the outside door on each side of each ISO container in accordance with MIL-STD-129R dated 14 February 2014. The marking shall include NSN; Part Number (P/N); Nomenclature; Manufacture; Quantity; Manufacture Date and Serial Numbers for all kits in the container.

D.5.3. Crate Markings

D.5.3.1 B-Kit Armor Crate Markings. The contractor shall mark B-Kit Armor crates in accordance with MIL-STD-129R dated 14 February 2014 and the SPIs in Attachment 0009, Special Packaging Instructions.

D.5.3.2 FTFS Crate Markings. The contractor shall mark FTFS crates in accordance with MIL-STD-129R dated 14 February 2014 and the SPIs in Attachment 0009, Special Packaging Instructions.

D.5.3.3 Underbody Armor Kits. The contractor shall stencil all Underbody Armor Kit crates as shown below:

UNDERBODY IMPROVEMENT KIT
NSN: 2540-01-659-2573
PN: 57K6427
MFR CAGE: XXXXX
1 EA.
S/N:
Date: MM/DD/YYYY

D.5.3.4 Underbody Counterweight Kits. The contractor shall stencil all Underbody Counterweight Kit crates as shown below:

UNDERBODY COUNTERWEIGHT KIT
Part Number: 57K6428
MFR CAGE: XXXXX
1 EA.
S/N:
Date: MM/DD/YYYY

D.6 Packaging and Preservation:

The Contractor shall accomplish the preservation, packing, and marking requirements for this contract and subsequent delivery orders in accordance with the performance requirements defined herein. The following Packaging requirements shall apply:

LEVEL OF PRESERVATION: Military
LEVEL OF PACKING: A
QUANTITY PER UNIT PACKAGE: 1 each

D.6.1 Packaging: Preservation, packaging, packing, unitization and marking furnished by the supplier shall provide protection for a minimum of one year and meet or exceed the following requirements. It also provides for multiple handling, redistribution and shipment by any mode.

D.6.2 Cleanliness: Items shall be free of dirt and other contaminants which would contribute to the deterioration of the item or which would require cleaning by the customer prior to use. Coatings and preservatives applied to the item for protection are not considered contaminants.

D.6.3 Preservation: The Contractor shall provide protection by means of preservative coatings, volatile corrosion inhibitors, desiccants, waterproof, or water vapor proof barriers for items susceptible to corrosion or deterioration.
D.6.4 Cushioning: Items requiring protection from physical and mechanical damage (e.g. fragile, sensitive, material critical) or which could cause physical damage to other items, shall be protected by wrapping, cushioning, pack compartmentalization, or other means to mitigate shock and vibration to prevent damage during handing and shipment.

D.7 Unit Package: A unit package shall be so designed and constructed that it will contain the contents with no damage to the item(s), and with minimal damage to the unit pack during shipment and storage in the shipping container, and will allow subsequent handling. The outermost component of a unit package shall be a container such as a sealed bag, carton or box. The Contractor shall design unit packs to conserve weight and cube while retaining the protection required and enhancing standardization.

D.8 Packing:

D.8.1 Unit packages and intermediate packages not meeting the requirements for a shipping container shall be packed in shipping containers. All shipping containers shall be the most cost effective and shall be of minimum cube to contain and protect the items.

D.8.2 Shipping Containers: The shipping container (including any necessary blocking, bracing, cushioning, or waterproofing) shall comply with the regulations of the carrier used and shall provide safe delivery to the destination at the lowest tariff cost. The shipping container shall be capable of multiple handling, stacking at least ten feet high, and storage under favorable conditions (such as enclosed facilities) for a minimum of one year.

D.9 Unitization: The Contractor shall palletize shipments of identical items going to the same destination if they have a total cubic displacement of 50 cubic feet or more unless skids or other forklift handling features are included on the containers. Pallet loads must be stable, and to the greatest extent possible, provide a level top for ease of stacking. A palletized load shall be of a size to allow for placement of two loads high and wide in a conveyance. The weight capacity of the pallet must be adequate for the load. The preferred pallet is a 40 x 48 inch, 4-way entry pallet although the Government may permit variations as dictated by the characteristics of the unitized items. The load shall be contained in a manner that will permit safe handling during shipment and storage.

D.10 Marking:

D.10.1 All unit packages, intermediate packs, exterior shipping containers, and, as applicable, unitized loads shall be marked in accordance with MIL-STD-129R dated 14 February 2014, including bar coding and Military Shipment Label (MSL). The contractor is responsible for application of special markings as discussed in the Military Standard regardless of whether specified in the contract/order or not. Special markings include, Shelf-life markings, structural markings, and transportation special handling markings. The marking of pilferable and sensitive material will not identify the nature of the material. If the item has Unique Item Identifier (UII) markings then the concatenated UII needs to be 2D bar coded and applied on the unit package, intermediate and exterior containers, and the palletized unit load.

D.11 Hazardous Materials (As applicable):

D.11.1 Hazardous Materials are defined as a substance(s) or waste(s), which has/have been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated. (This includes all items listed as hazardous in Titles 29, 40 and 49 CFR and other applicable modal regulations effective at the time of shipment.)

D.11.2 Packaging and marking for hazardous material shall comply with the requirements herein for the mode of transport and the applicable performance packaging contained in the following documents:

- International Air Transport Association (IATA) Dangerous Goods Regulations
- International Maritime Dangerous Goods Code (IMDG)
- Code of Federal Regulations (CFR) Title 29, Title 40 and Title 49
- Joint Service Regulation AFMAN24-204(I)/TM38-250/NAVSUPPUB 505/MCO
- P4030.19 (I)/DLAM 4145.3(I) (for military air shipments).

D.11.3 If the shipment originates from outside the continental United States, the shipment shall be prepared in accordance with the United Nations Recommendations on the Transport of Dangerous Goods in a manner acceptable to the Competent Authority of the nation of origin and in accordance with regulations of all applicable carriers.

D.11.4 A Product Material Safety Data Sheets (MSDS) is required to be included with every unit pack and intermediate container and shall be included with the packing list inside the sealed pouch attached to the outside of the package.

D.12 Quality Assurance: The contractor is responsible for establishing a quality system. The Government will give full consideration to examinations, inspections, and tests to ensure the acceptability of the commercial package.

D.13 IUID
D.13.1 IUID Marking Plan: The Contractor shall deliver an IUID Marking Plan IAW CDRL D001, IUID Marking Plan. The plan shall include a list of components for which an IUID is required. The plan shall be submitted as defined by the latest version of the DoD Guide to Uniquely Identifying Items, Assuring Valuation, Accountability and Control of Government Property and MIL-STD-130N W/Change 1 dated 16 November 2016, Identification Marking of U. S. Military Property. The Government will review the plan for appropriateness and completeness to ensure the Contractor has correctly identified items, defined how the engineering assessment for data plate or marking placement was made, and how the Contractor shall validate the readability of the IUID data matrices.

D.13.2 Unique Item Identifier (UII):


D.13.2.2 Items Requiring IUID

D.13.2.2.1 IUID Candidate Items: The Contractor shall deliver an IUID Candidate List IAW CDRL D002, IUID Candidate List. The approved IUID items list shall be deemed incorporated into DFARS clause 252.211-7003 as paragraph (c)(1)(i and ii).

D.13.2.2.2 IUID Marking: Each of the items on the Approved IUID Items List shall be marked with the information as specified in DFARS 252.211-7003, MIL-STD-130N W/Change 1 dated 16 November 2016 and the DOD Guide to Uniquely Identifying Items.

D.13.2.2.3 Marking Methodology: The Contractor shall embed the data matrix mark in the items data plate or, if that is not feasible, it will be located on a durable label meeting MIL-STD-130N W/Change 1 dated 16 November 2016 permanency standard, which will be affixed to the existing data plate(s) or placed in a standard commercial location on parts without data plates. The IUID marking shall be IAW the TDP. If the technical data has not specified the marking location, markings shall be located such that they are visible during use of the item, if sufficient space is available.

D.13.2.2.4 Mark Legibility and Durability: Mark legibility and durability shall be as prescribed in MIL-STD-130N W/Change 1 dated 16 November 2016. Direct part marking and identification plates, identification bands, identification tags, or identification labels used shall be as permanent as the normal life expectancy of the item and be capable of withstanding the environmental tests and cleaning procedures specified for the item to which it is affixed. The Contractor shall select the appropriate marking method to ensure the mark will withstand the specified rebuild processes. However, if it is not feasible to mark an item with Machine-Readable Information (MRI) that will survive its intended life cycle, including the rebuild process when applicable, the item shall be marked in a way that will survive its anticipated life cycle up to the point of rebuild.

D.13.2.2.5 Marking of Packaging of Items Bearing IUID: As specified in DFARS 252.211-7003 the contractor shall mark the packaging of items bearing IUID IAW MIL-STD-129R dated 14 February 2014.

D.13.2.2.6 Deleterious Effect: The Contractor shall accomplish marking of items in a manner that will not adversely affect the life and utility of the item. The Contractor shall not use marking materials that create hazardous conditions.

D.13.2.3 Mark Quality Assurance

D.13.2.3.1 Item Mark Quality Assurance: The Contractor shall conduct quality assurance of item marks as prescribed by DFARS 252.211-7003 and MIL-STD-130N W/Change 1 dated 16 November 2016. Quality assurance shall include verification and validation of marks, as described in MIL-STD-130N W/Change 1 dated 16 November 2016. Sampling is acceptable as long as applied to the marks on each type of item. The Contractor shall conduct Verification and Validation using a verifier apparatus. The Contractor shall report and retain the report of each Validation or Verification processed. The Contractor shall retain the report for one year, subject to Government inspection.

D.13.2.3.2 Packaging Mark Quality Assurance: When the IUID verification and validation capability for packaging is not available, within 60 days of contract award, the Contractor shall assure the Contracting Officer in writing that packaging of items bearing IUID will be marked IAW the provisions of MIL-STD-129R dated 14 February 2014, to include use of a Portable Data File (PDF) 417 bar code and
enveloping serial numbers and unique item identifiers.

D.13.2.4 IUID Registration

D.13.2.4.1 The Contractor shall report IUID pedigree data to the DoD IUID Registry using the procedures specified in DFARS 252.211-7003. The use of iRAPT WAWF is required for end items. The Contractor may report components using the alternate procedures described in the above DFARS clause.

D.13.2.4.2 If the Contractor chooses to mark items using IUID Construct #1, in addition to the iRAPT WAWF submission and within 30 days following item acceptance, the Contractor shall report the original part number to the DoD IUID Registry as mark section data.

D.13.2.5 IUID Validation and Verification Report: The Contractor shall provide an IUID Validation and Verification Report to the Government. The report shall include a representative sample of IUID-related data matrix marks on items in each delivered Contract Line Item Number (CLIN), Subcontract Line Item Number (SLIN), and Exhibit Line Item Number (ELIN) for validation and verification. The Contractor shall deliver a copy of the validation and verification report for the first instance of each CLIN, SLIN and component delivered requiring an IUID. The Contractor shall validate and verify all IUID markings on principal end items IAW E.1.29, Final Inspection Record (FIR) and Modifications. The Contractor shall deliver the information once for each item marked and registered IAW CDRL D003, IUID Validation and Verification Report.

*** END OF NARRATIVE D0001 ***
SECTION E - INSPECTION AND ACCEPTANCE

E.1 Quality Program

E.1.1 Quality Program Requirements. The Contractor shall develop, implement, and maintain a quality system for all supplies and services as well as software and hardware provided under this Contract. The Contractor shall register the quality management system to ISO9001, Quality management systems Requirements (QMS). In addition, the QMS shall meet all the requirements in this Contract. The Contractor shall register prior to or at the time of contract award. The Contractor shall update the quality manual to reflect changes to the Quality Management System (QMS). The Contractor shall submit initial and subsequent revisions to the quality manual to the Government for approval in accordance with (CDRL E001, QMS Manual and Revisions).

E.1.1.1 If the Contractor has a registration to ISO9001:2015 at the time of contract award, the requirements of ISO9001:2008 shall remain in effect, and shall be in addition to the requirements in ISO9001:2015. The Contractor shall not dismantle or change systems and processes in place under ISO9001:2008. The Contractor shall follow the specific requirements listed below ISO9001:2015 Revision. If the Contractor or Subcontractors register to this revision, the Contractor shall comply with contract provisions a – j (below) to ensure continued QMS effectiveness. These requirements consist of:

a. The Contractors and Subcontractors QMSs shall consist of a process for corrective action that addresses identification, development, and implementation of preventive actions. The Contractor and Subcontractors shall not ignore the corrective action process due to the emphasis and requirements in the ISO9001:2015 revision for risk-based thinking.

b. The Contractor shall write work instructions for all operations that directly and indirectly affect manufacturing. Such operations consist of engineering, quality, inspection, purchasing, outside services, retrofit, repair, re-work, shipping, service, warranty, and related processes.

c. Procedures and documents in place during and after the implementation of the ISO9001:2008 revision shall remain in effect when the Contractor and Subcontractors register to ISO9001:2015.

d. Formal and documented training for all complex jobs relating to manufacturing (as explained in b above) shall continue to take place.

e. The Contractor shall share all written quality objectives with the Government upon request.

f. The Contractor shall share all written output of the Contractors risk-based thinking analysis with the Government upon request. When the Contractor completes risk analyses in areas of the company other than engineering, design, and manufacturing, the Contractor shall use a quantitative scale for risk rating and ranking. Risk analyses for engineering, design, and manufacturing are covered under FMEAs (as further explained in E.1.4, Failure Modes and Effects Analyses (FMEAs))

g. The Contractor shall document all linkages between procedures and processes required by ISO9001:2015 and share the linkages with the Government upon request. All the requirements in this contract shall be flowed down to the Subcontractors of production parts and services. All requirements of this contract, and ATDP 2352 (revision T), Purchase Description Transparent Armor shall be part of the Contractor and Subcontractors requirements and shall be part of the context of the organization. Government shall be included in the category of interested parties, so that the Contractors and Subcontractors shall meet Government needs and expectations.

h. The Contractor and Subcontractors shall not exclude departments, functions, sectors, and business units within the boundary of the scope of their certification to ISO 9001. The products and services affecting the integrity and quality of FMTV Protection Kits, and services shall be included in the scope of the registration (reference ISO9001:2015, paragraph 4.3, Determining the Scope of the QMS)

i. The Contractor and Subcontractor shall take no exceptions or exclusions to the requirements in ISO9001:2015.

j. All material purchased or manufactured by the Contractor, classified by the Contractor, the Subcontractors, or the Government as non-conforming shall be marked, tagged, and segregated from conforming material. The Contractor and Subcontractors shall maintain traceability of the non-conforming items through the application of the disposition. Government approval is required for the rework, repair, and use of material previously classified as non-conforming. All non-conforming material shall be subject to evaluation through the Contractors or Subcontractor(s) corrective and preventive action process. Root causes or causes shall be determined, and subsequently eliminated or mitigated. The Government will hold authority for approval of all corrective action reports.

The following definitions of ISO9001:2015 terms as used in paragraph E.1.1:

Context of the Organization Business environment combination of internal and external factors and conditions that can have an effect on
an organizations approach to its products, services, investments, and interested parties.

**Interested Party** Person or organization that can affect or be affected by, or perceive themselves to be affected by a decision or activity of the organization.

**Scope, Boundary of** (See ISO9001:2015 paragraph 4.3) The Organization determines the boundaries and applicability of the QMS to establish its scope. The organization shall consider external and internal issues, requirements of relevant interested parties, and the products and services of the organization.

**Needs and expectations of interested parties** are those issues having an impact or potential impact on the organizations ability to provide consistent products and services that meet the customer and applicable statutory and regulatory requirements. The organization shall determine if the requirements of these interested parties are relevant to the QMS.

**Organization** This term as used in this contract is synonymous with the Contractor and Subcontractors.

**Risk** The effect of uncertainty on an expected result. The effect can be positive or negative. Risk is often characterized by a reference to potential events and consequences or a combination of these.

Definitions of Government specific terms used in Section E:

**8 Disciplines (8D)** - A problem solving methodology designed to find the root cause(s) of a problem and devise a short term fix (correction) and a long term plan to prevent recurring problems. The disciplines are D0 Plan, D1 Use a Team, D2 Describe the Problem, D3 Develop an Interim Containment Plan, D4 Determine and Verify Root Causes and Escape Points, D5 Verify Permanent Corrections, D6 Define and Implement Corrective Actions, D7 Prevent Recurrence, D8 Congratulate the Team.

**Corrective Actions** Are a set of actions taken to eliminate root causes and prevent recurrence. The Contractor and Subcontractors shall provide all corrective action answers using the 8D methodology and format.

**Rework** - A procedure applied to a product to eliminate a non-conformance to the drawings, specifications, or contract requirements that will completely eliminate the nonconformance and result in a characteristic that conforms completely.

**Repair** - A procedure, which reduces, but does not eliminate, a nonconformance. Repair is distinct from rework in that the characteristic after repair still does not completely conform to the applicable drawings, specifications, or contract requirements.

**E.1.2 Subcontractors QMS**

**E.1.2.1** The Contractors QMS shall document and verify its review and acceptance of Subcontractor(s) QMS consisting of all Advanced Product Quality Planning (APQP) elements. The Contractor shall make documentation available for review upon Government request. The Government reserves the right to perform ad-hoc quality audits at the Contractors and Subcontractor(s) facilities.

**E.1.2.2 Quality Planning.** The Contractor and Subcontractor(s) shall establish Quality Plans that define the steps to assure that the product meets the Governments needs and expectations. The Quality Plan shall use a multi-disciplinary approach for decision-making. The Contractor and Subcontractor(s) shall employ Advanced Product Quality Planning (APQP) in accordance with the current revision of the APQP Manual (2nd Edition) published by the Automotive Industry Action Group (AIAG) in the composition of the quality plans.

**E.1.2.3 Subcontractor Quality Assurance Program.** The Contractor shall develop a Subcontractor quality assurance program and plan that requires certification to ISO 9001 for each Subcontractor. The Contractor shall have a means to track ISO 9001 certification status for all Subcontractors and shall provide the status to the Government upon request. The Subcontractor quality assurance program shall assure a developed, documented, implemented, and maintained system of quality procedures, work instructions, flow charts, and documented records for all products. The Subcontractor(s)’ Quality Assurance Plan shall be available for Government review upon request. The Contractor’s quality manual shall include the Subcontractor quality assurance plan. The Contractor and Subcontractor(s) shall document work instructions, all corrections, rework activities, repairs, and retrofits done on finished parts and kits. The Government will review and agree to these work instructions prior to the commencement of corrections, rework activities, repairs, and retrofits. The Government will respond with initial comments on the work instructions within 5 calendar days of receipt from the Contractor.

**E.1.2.3.1** In the event that all the Subcontractor(s) have not been certified by a registrar to ISO 9001 at the time of contract award, the Contractor shall require all Subcontractor(s) to achieve certification no later than one (1) year after this contract award and maintain that certification throughout performance of this contract. If the Subcontractor(s) do not meet the requirements of or do not register to ISO 9001 within one year of this contract award date, the Government may not accept kits until such time that the registration of the Subcontractor(s) to ISO 9001 is complete.

**E.1.2.3.2 Supplier Selection Process.** The Contractor shall require their purchasing department to consider the risks associated with meeting product requirements and use quality performance metrics in the selection process for Subcontractor(s) used in the execution of this contract.
E.1.2.4 Contract Flow Down. The Contractor shall flow down all contract requirements associated with the Subcontractor(s) product(s) or service(s). The Government will have the right to review or access contractual documents between the Contractor and their Subcontractors.

E.1.2.5 The Contractor shall ensure that the Subcontractor(s) understand and are compliant with contract requirements prior to releasing contractual documents and subsequent changes.

E.1.2.6 The Contractor shall facilitate Government access to all facilities, processes, data, and records, comprising all tiers of Subcontractor(s). If the Contractor changes suppliers after passing First Article Tests or after submitting Level 3 PPAPs to the Contractor, it shall be subject to requalification of all post-test hardware, software, and supply chain changes shall be subject to requalification by the PAT process, CFAT process, and the PPAP, as described in CFAT paragraph E.1.12.1 or PPAP paragraph E.1.9.

E.1.3 Advanced Product Quality Planning (APQP) Linkages

E.1.4 Failure Modes and Effects Analyses (FMEAs)
E.1.4.1 Design and Process Failure Modes and Effects Analysis (DFMEA and PFMEA). The Contractor and Subcontractors shall conduct and provide DFMEAs and PFMEAs on all critical items and key subsystems. The Contractor and Subcontractor(s) shall submit a list of DFMEAs and PFMEAs to the Government for review and approval in accordance with CDRL E002. List of DFMEAs and PFMEAs. The Government will select DFMEAs and PFMEAs from the list for review. The information used to create this CDRL shall be available to the Government and discussed at IPTs and other reviews. The Contractor and their Subcontractors shall use the current edition of the FMEA Manual published by AIAG for the requirements needed to design, implement, and maintain the system, process, and documentation of DFMEA and PFMEA.

E.1.4.2 The Contractor and Subcontractor(s) shall identify the critical, special, or key characteristics of the product or process from the Technical Data. The Contractor or Subcontractor(s) shall incorporate these characteristics in the DFMEAs and PFMEAs. The potential failure modes and their effects deemed by the Contractor or Subcontractors team as high risk shall be controlled, mitigated, or eliminated. The Contractor shall record recommended actions, responsibility, target completion dates, and actions taken and effective date for the Government to consider the DFMEA and PFMEA complete and compliant to the requirements of this contract. The Contractor shall ensure that the DFMEA and PFMEA reflects the current drawing revision levels at all times. Risk Priority Number (RPN) is the product of the rankings for severity multiplied by occurrence multiplied by detection. The Contractor and Subcontractor shall use the tables in the AIAG FMEA Manual for ranking severity, occurrence, and detection unless or until tables are developed by the Contractor that are approved by the Government Product Assurance Team. The Contractor shall develop a process of continual improvement using FMEA RPN reduction. Top RPN lists and RPN goals shall guide the Contractor, rather than setting an RPN threshold. The Contractor shall reduce RPNs by the use of process behavior charts to show improvement of the process. Process behavior charts, previously known as Statistical Process Control Charts (SPC charts), are a tool for characterizing the voice of the process. These charts separate variation into two components: common (process has not changed) and special (a signal the process has changed). The Contractor shall plot data in a time series. A central line (or average) indicates a visual reference that detects shifts or trends. Upper and lower control limits (natural process limits) are computed from the data and placed symmetrically on either side of the central line.

E.1.4.3 The Contractor shall update the DFMEA, PFMEA, and related documents to reflect lessons learned, ecp changes, process changes, updated reliability predictions, and the results of corrective actions. The Contractor or Subcontractors shall provide DFMEAs and PFMEAs for review at the Governments discretion. Because the TDPs are unlimited right TDPs, the Contractor or Subcontractors shall not limit the Government access to DFMEAs and PFMEAs.

E.1.5 Control Plans (CP). The Contractor shall develop and maintain CPs in accordance with the APQP Manual, published by the AIAG. The CPs shall detail the execution of the production. Critical Safety Items (CSI) and special, or key characteristics, whether identified by the Government or the Contractor, shall be used in the development of CPs. The Contractor shall also include specific response plans when obtaining undesirable measurement results. The Methods section and the subsection Evaluation Measurement Technique shall employ statistical process control or process behavior charts to show when the process is in statistical control and is statistical capable. The response plans, in conjunction with the inspection and test frequency, shall ensure that zero suspect material leaves the Contractors facility in the event of an undesirable measurement. The control plans shall be living documents and shall always reflect the current processes. Control plans shall be controlled documents, retained for the life of the contract. The Government reserves the right to review control plans on request.

E.1.6 In-Process Inspection. The Contractor shall incorporate in-process inspection into the Contractor and Subcontractors overall QMS.
E.1.7 Inspection Equipment. The Contractor and Subcontractors shall be responsible for the supply, calibration, and maintenance of all measuring, monitoring, inspection, and test equipment necessary to ensure that end items and components conform to contract requirements. The Contractor and Subcontractors shall furnish and shall make available inspection equipment for Government review during the execution of this contract. The Government will use only the Contractor or Subcontractors calibrated inspection or test equipment.

E.1.8 Inspection Records and Drawings. The Government reserves the right to review inspection records, drawings, and process documents upon request.

E.1.9 Production Part Approval Process (PPAP). (See also: paragraph E.12.1, Component First Article Testing and paragraph E.1.14, Production Part Approval Process for Pre-Production Kits (PPK PPAP).) The Contractor and Subcontractors shall demonstrate that their manufacturing and measurement processes have the capability of meeting design or specification requirements prior to the first shipment of product in accordance with PPAP Manual from the AIAG. The Contractor and Subcontractors shall validate the product(s) in accordance with the control plan developed by the Contractor or Subcontractors multi-disciplinary team and approved by the Contractor. The Contractor shall evaluate all testing equipment (manual or automated) used to verify compliance by the Contractor and Subcontractors for its contribution to the overall variation in the process using the protocols defined in the Measurement Systems Analysis (MSA) Manual from AIAG. The PPAPs must reach level 3, as defined in the PPAP Manual, for all Subcontractors and parts made in-house by the Contractor prior to Government acceptance of full rate production of kits. The Contractor shall produce a spreadsheet for all parts showing status of the individual PPAPs and the level reached. The Contractor shall include the status of all Subcontractor sourced parts in the spreadsheet. The Contractor shall include as part of the meeting minutes, a PPAP status whenever the Government choses to hold a project status or quality meeting. If this Level 3 PPAP requirement is unfinished before the first kits are ready for sale, then the Contractor shall submit a Request for Variance (RFV) along with the interim approval worksheet and obtain a Government disposition before proceeding. The number of interim PPAPs after Government acceptance of full rate production kits shall be maintained at less than or equal to 3% of all PPAPs currently required. Test results and verifications essential in meeting FAT or CFAT requirements in the TDP shall be part of the PPAP package. The PPAP shall contain dimensional verifications, as outlined in the PPAP Manual published by the AIAG. The Contractor and Subcontractors shall ensure the maintenance of all Level three (3) PPAPs (including FATs or CFATs) after Government acceptance of full rate production of kits.

If a Subcontractor alters the aspects of the manufacturing process that consists of:

- Moving, replacing, or modifying the manufacturing process
- Moving or modifying the manufacturing site
- Changing a sub-supplier, material or part
- Changing owners
- Changing processes from manual to automated or vice versa
- Moving a part from internally to externally manufactured or vice versa

Then the Contractor or Subcontractors shall re-perform the PPAP (including the CFAT or FAT). The Contractor or Subcontractors shall again achieve level three (3) PPAP approval. The Contractor or Subcontractors shall use the current revision of the Production Part Approval Process (PPAP) Manual for requirements and associated processes used for submission and approval of PPAPs at each level. The Government reserves the right to review all associated production part approval documents and records. The Contractor and the Subcontractors shall ensure that the PPAP process also applies to the kitting process.

E.1.10 Production Parts from Outside the US. If the Contractor or Subcontractors purchase parts or assemblies bought outside the United States of America, then the Contractor shall present the PPAP to Government Quality for approval during the PPAP process (CDRL E003, List of Production Parts from Outside the US). The Contractor and Subcontractors shall translate all PPAP documents in to English prior to submission to Government Quality.

E.1.11 Measurement Systems Analysis (MSA). The Contractor shall use the Automotive Industry Action Group (AIAG) Measurement Systems Analysis Manual (4th Edition) to design, develop, and implement all MSA studies and reports. The Contractor and Subcontractor(s) shall develop reports in Contractor format. MSA shall provide the system for the Contractors and Subcontractors to assure the test and measurement equipment contributes the minimum variation to the measurement of the parts, processes, and assemblies used in the design, build, and test of FMTV Protection Kits. MSA shall apply to all test equipment, measuring devices, gages, and fixtures used for product verification, validation, and acceptance.

E.1.12 Contractor and Subcontractor Component Testing Requirements.

E.1.12.1 First Article Testing (FAT) or Component First Article Testing (CFAT). (See section titled, PPAP, E.1.9.) FAT or CFATs shall be required for components, systems, or sub-systems as indicated in the FMTV Protection Kits TDPs. The Technical Data specifies the testing requirements. Some of the requirements in the TDPs do not specifically state the term CFAT or FAT requirements. Regardless, the Contractor shall treat the tests in the notes and in the specifications listed in the notes on the drawings (listed below) as CFAT/FAT requirements. The Contractor shall complete the PPAP Parts Submission Warrant (PSW) with the test results for the FAT/CFATs...
included under requirement 17, Records of Compliance with Customer-Specific Requirements.

E.1.12.2 Components, systems, and sub-systems consist of the following:

1. Transparent Armor
2. Opaque Armor

Items not finalized by the Contractor, at the time of this proposal, but are detailed in this Contract and listed above, shall still require a CFAT or PPAP. The Contractor shall define the actual tests and requirements in the individual Engineering Change Proposals (ECPs) governing each technical insertion.

E.1.12.3 Ballistic testing for opaque armor panels.

a) For steel armor, the Contractor shall submit two (2) FAT ballistic test samples in accordance with MIL-DTL-12560K, paragraphs 4.4 and 4.6.1, to the address listed in paragraph 4.2.1 and two (2) FAT ballistic test samples in accordance with MIL-DTL-46100E, paragraphs 4.4 and 4.6, to the address listed in paragraph 4.2.1 for each full or partial heat lot used.

b) For aluminum armor, the Contractor shall submit two (2) FAT ballistic test samples in accordance with MIL-DTL-32262A, paragraphs 4.3 and 4.5.1 to the address listed in 4.7.3.1, or for material IAM MIL-DTL-46027K, paragraphs 4.3 and 4.5 to the address listed in 4.7.3.1 for each full or partial heat lot used.

c) Ballistic testing for transparent armor (TA) panels shall pass ballistic ALLTEMP requirements called out in Table IV of Attachment 2. The Contractor shall submit 29 Transparent Armor (TA) samples plus five (5) spares IAM Armor Transparent Purchase Description (ATPD) 2352 (Attachment 2) (Revision R) to the address listed in paragraph 4.7 of the ATPD (Attachment 2) for ballistic CFAT. Recipe changes shall require a new CFAT. The Contractor is responsible for conducting the environmental and de-icing testing called for in ATPD 2352 (Attachment 2) as well as the required rock strike called out on drawing 12505426 (revision F). TA produced for drawing 12505427 (revision E) does not require de-icing or rock strike. Ballistic control tests shall consist of ten (10) samples plus two (2) spares and shall be delivered to the address listed in paragraph 4.7 of ATPD 2352 (Attachment 2). The Contractor shall mark all samples shipped and shall identify the contract number under which they were produced.

The Government reserves the right to be present at all testing. The Contractor shall notify the Government a minimum of 20 calendar days prior to conducting a test. At the Government’s discretion, failure to notify the Government within the time limit may be grounds to reject the test. The Contractor shall perform all CFATs in accordance with the appropriate FMTV Protection Kit TDP. The Contractor shall test Components in a system or sub-system requiring a CFAT individually prior to performing the system or sub-system FAT. When the Contractor combines components to form a system, the Contractor shall perform a system FAT (see table above).

The FAT or CFAT shall include a dimensional inspection that validates the component, system, or sub-system conforms to the TDP. (See also PPAP requirements)

The approved FAT or CFAT procedures shall become the baseline test requirements of the Quality Assurance Provisions. The component, systems, or sub-systems tested during FAT or CFAT shall be representative of items the Contractor shall manufacture for production using the same processes, facilities, and procedures. The Government will consider delays in schedule because of the Contractor’s failure to identify the FAT or CFAT components, systems, or sub-systems a Contractor-caused delay.

E.1.12.4 FAT or CFAT Plan. The plan shall describe the methods for testing and inspection required by the TDP. The information contained in the plan shall consist of details as to how the Contractor or Subcontractors shall determine compliance with all dimensions, drawing notes, standards, or specifications listed in the TDP.

The Contractor shall prepare and submit a FAT or CFAT plan for each component, system, or sub-system subjected to FAT or CFAT. Submission of the plans shall be within 90 calendar days after contract award and 30 calendar days before the kitting process begins.

They shall be submitted into Windchill under, FAT or CFAT Plan (CDRL E004 including the TDP (Drawing) number and title of the test component, system or, sub-system, represented by the plan so the submission can be identified by the Government). FAT or CFAT plans and Report including the TDP (Drawing) number title of the test Component, System, or Sub-system represented in the report so the submission can be identified by the Government). FAT or CFAT reports shall contain a summary table showing:
E.1.12.6 Components Pending FAT or CFAT Completion. The Government may allow the Contractor to use components, systems, or sub-systems pending FAT or CFAT approval in the manufacture of FMTV Protection Kits. The following conditions shall apply:

a. The Contractor agrees to comply with all FAT or CFAT testing requirements.

b. The Contractor shall remedy all non-conformities, deficiencies, or discrepancies in each component, system, or sub-system discovered during the FAT or CFAT.

c. If a pending FAT or CFAT of a component, system, or sub-system results in a failure, the Government reserves the right to:

1. Cease acceptance of kits with components, systems, or sub-systems that have failed FAT or CFAT.

2. Require the Contractor to repeat a portion or all of the FAT or CFAT testing at the Contractor's expense.

3. Deficiencies found during, or because of, FAT or CFAT shall be prima-facie evidence that all components, systems, or sub-systems already produced prior to completion of FAT or CFAT are similarly deficient. The Contractor at no additional cost to the Government shall correct such deficiencies on all components, systems, or sub-systems.

E.1.12.7 Disapproval. If the Government disapproves the FAT or CFAT, the Contractor shall repeat the FAT or CFAT tests in whole or in part to address Government concerns. After such a request for additional tests, the Contractor shall make changes, modifications, or shall rework the test components, system, or sub-system. If the situation warrants, the Contractor shall conduct a repeat FAT or CFAT. The Contractor shall then conduct the repeat FAT(s) or CFAT(s) and deliver the revised report in accordance with CDRL E004, FAT or CFAT Plans and Report. The Government reserves the right to request consideration for a delivery schedule extension resulting from a need to retest.

E.1.12.8 Changes. If the Government or the Contractor makes changes to the technical data, production processes, facilities, or type of material (substitution), a subsequent FAT or CFAT may be required. The Contractor shall submit results of the FAT or CFAT in accordance with CDRL E004, FAT or CFAT Plans and Report. Costs of FATs or CFATs resulting from Contractor proposed changes shall be borne by the Contractor.

E.1.12.9 Manufacture. The Contractor shall produce the FAT or CFAT component, system, or sub-system offered for test at the same place of manufacture using the same production process to be used for production. The Contractor shall certify the place of manufacture. The Contractor shall include this certification in the (CDRL E004, FAT or CFAT Plans and Report) submission.

E.1.12.10 FAT or CFAT Conditions. The Government may consider the FAT or CFAT requirement met if the Contractor certifies to the Government that:

a) The supplier has FAT or CFAT approval on an identical component, system, or sub-system delivered for use in a previous Government tactical wheeled vehicle production contract.

b) The Contractor or Subcontractor have been in continuous production (defined as one which has not had a break in production in excess of six months, and the design, manufacturing, assembly process, or place of manufacture have not been changed).

The Government may consider the FAT or CFAT requirement not met and another FAT or CFAT shall be required if one or both of the conditions listed below exist:

a) Military or federal specifications applicable to the component, system, or sub-system have changed and may affect form, fit, function, or performance.

b) PQDRs are received or corrective actions have been written showing that the component, system, or sub-system have failed in the field or at the Contractor or Subcontractor.
E.1.13 B-Kit Armor Production Control Tests

Transparent Armor Control Tests: Ballistic production control test coupons shall be submitted at the rate of two coupons for every 200 pieces of armor produced or two pieces per every autoclave cycle, whichever is larger, IAW paragraph 4.5, ATPD 2352 Table IV and shall be delivered to the address listed in paragraph 4.7 of ATPD 2352 Revision T (Attachment 0012). Coupons shall be 400 mm x 400 mm of the production recipe, in accordance with paragraph 4.5.a of ATPD 2352 (Attachment 0002). The Contractor shall mark all coupons with the contract number.

E.1.13.1 Opaque Armor Production Control Tests

Ballistic production control testing for steel (opaque) armor panels:

The Contractor shall submit one (1) ballistic test control coupon in accordance with MIL-DTL-12560, paragraphs 4.5 and 4.6.2, to the address listed in paragraph 4.2.1 and one (1) ballistic test control coupon in accordance with MIL-DTL-46100, paragraphs 4.5 and 4.6.2, to the address listed in paragraph 4.2.1 for each full or partial heat lot used.

Ballistic production control testing for aluminum (opaque) armor panels: The Contractor shall submit one (1) ballistic test control coupon in accordance with MIL-DTL-32262, paragraphs 4.4 and 4.5.2, to the address listed in 4.7.3.1, or for material IAW MIL-DTL-46027, paragraphs 4.4 and 4.5.2, to the address listed in 4.7.3.1 for each full or partial heat lot used.

E.1.13.2 Armor Production Control Test Failure.

For each unsuccessful Production Control Test Result, the contractor shall identify the cause of the deficiency and provide corrective and preventive actions acceptable to the Government. The contractor will replace all components represented by the failed control lot sample. The contractor is responsible for all costs and time delays associated with repeating a Production Control Test, which was unsuccessful. The Government reserves the right to require an equitable adjustment of the contract price for all extensions of the delivery schedule or for all additional costs to the Government.

E.1.13.3 Armor Traceability.

The Contractor shall maintain traceability for all armor materials delivered under this contract. The Contractor shall record foundry and the mill information including the names of the subcontractors providing the armor. The information from the Subcontractors shall be recorded and retrievable at the Contractor's facility for the life of the contract. The information recorded shall include melt date, dates and heat numbers, heat treat dates, and mechanical, chemical, and ballistic testing results for all armor material. The Contractor shall maintain traceability of the information and shall record the identifying numbers for all unfinished armor material to the finished parts, weldments, and assemblies. Application of serial numbers shall be permanent on the lowest non-separable level of each part, assembly, and weldment. The Contractor and Subcontractors shall record all the armor heat lots of each individual piece used to create complex weldment or assemblies.

E.1.14 Production Part Approval Process for Pre-Production Kits (PPK PPAP). The Contractor shall conduct a PPK PPAP on the pre-production kits to ensure meeting the requirements of the Technical Data Packages (TDP). The PPK PPAP shall consist of:

- 1 each ISO Container (P/N 57K6420-001), containing 4 each MTV 58-Gallon B-Kits (P/N 57K6013)
- 1 each ISO Container (P/N 57K6420-002), containing 4 each MTV 78-Gallon B-Kits (P/N 57K6414)
- 1 each ISO Container (P/N 57K6420-001) containing 4 each Underbody Armor Kits (P/N 57K6427)
- 1 each Tricon II Container (P/N 57K 6435) containing 4 each Counterweight Kits (P/N 57K6428) (for M1078 with underbody armor kit)

The Government will use the submission of the PPK for the PPK PPAP IAW the schedule set forth in Section E.1.9 of this Contract. The PPK PPAP entails two (2) separate efforts. First effort involves inspection of packaging activity at the Contractor's facility, to include verification of proper blocking and bracing of the armor Kits and FTFS Kit crates within each ISO container. The Contractor shall support the second PPK PPAP effort, IAW E.1.14.2.

E.1.14.1 PPK PPAP of kitting activity at the Contractor's facility. The Contractor shall submit a plan detailing the method it intends to use to support the PPK PPAP with personnel, facilities with overhead lift capabilities. The Contractor shall employ personnel who have the ability to keep records of the tests and document any discrepancies and defects found. The Contractor shall submit the plan in Contractor format 30 working days before the packaging activity at the Contractor begins. The Contractors plan shall detail the
The Government and the Contractor shall review error-proofing approaches used to improve the production process during the APQP, FMEA, conformance. When the Contractor cannot assembled or kitted parts. Each assembly requires in-process checks and error-proofing tools be used so that assembled or kitted parts are conforming to the Technical Data and SPIs prior to release of product for shipment to the customer. The Government to review all process behavior charts.

Critical Manufacturing Processes shall be the origin of process behavior charts. The Contractor shall dictate targets or goals by the process potential as defined by the process behavior charts. The outputs of the planning and identification of the statistical tools shall be included in the control plans and in the quality planning process. These statistical methods shall be evidenced at all critical phases of the product realization process consisting of product development, purchasing, manufacturing, field analysis of returns, continual improvement, measurement systems analysis, safety, and cost of quality. The Contractor shall use statistical data analysis using process behavior charts for the production processes as the basis of continual improvement. Process behavior charts (previously known as SPC charts) are a tool for characterizing the voice of the process. These charts separate variation into two components: common (process has not changed) and special (a signal the process has changed). The Contractor shall plot the data in a time series. A central line (or average) indicates a visual reference for detecting shifts or trends. Upper and lower control limits (natural process limits) are computed from the data and placed symmetrically on either side of the central line.

Therefore, the Contractor shall demonstrate that methods of data organization, data gathering, data analysis, and the conclusions drawn from these data are done in accordance with the accepted and agreed to methods outlined in the, Statistical Process Control Manual published by AIAG. The Government will review this process on a discretionary basis. The voice of each process is the combination of process behavior charts (previously known as SPC charts). The Contractor shall then repackage the kits IAW Special Packaging Instructions (Attachment 0009). Upon completion of the repackaging effort, the Contractor shall submit a request for an equitable adjustment to the contract for the cost of replacement components, repair effort, and labor to repackag the kits. Installation will be conducted IAW paragraph E.2.1, Production Verification Testing.

E.1.15 Software. All software provided to the Government by the Contractor and Subcontractor(s) shall be in compliance with AS 9115 (revision A), Quality Management Systems Requirements for Aviation, Space, and Defense Organizations Deliverable Software. The requirements shall apply to all software developed or modified, and all effected subsystems and subcomponents. The requirement for compliance to the standards (above) shall apply to software:

a) Used to develop kit manuals
b) Required to operate, troubleshoot, or maintain equipment for kits
c) Required to operate all Computer Numerically Controlled (CNC) machinery, all Coordinate Measuring Machines (CMMs) portable and stationary, and all other manufacturing and inspection equipment operated using software.

This requirement shall apply to equipment owned, leased, or rented by the Contractor and Subcontractors.

E.1.16 Metrics. A system for the use of statistical methods and tools shall be developed, maintained, considered, and assigned at the product planning stage in accordance with APQP manual published by the AIAG. The outputs of the planning and identification of the statistical tools shall be included in the control plans and in the quality planning process. These statistical methods shall be evidenced at all critical phases of the product realization process consisting of product development, purchasing, manufacturing, field analysis of returns, continual improvement, measurement systems analysis, safety, and cost of quality. The Contractor shall use statistical data analysis using process behavior charts for the production processes as the basis of continual improvement. Process behavior charts (previously known as SPC charts) are a tool for characterizing the voice of the process. These charts separate variation into two components: common (process has not changed) and special (a signal the process has changed). The Contractor shall plot the data in a time series. A central line (or average) indicates a visual reference for detecting shifts or trends. Upper and lower control limits (natural process limits) are computed from the data and placed symmetrically on either side of the central line.

Therefore, the Contractor shall demonstrate that methods of data organization, data gathering, data analysis, and the conclusions drawn from these data are done in accordance with the accepted and agreed to methods outlined in the, Statistical Process Control Manual published by AIAG. The Government will review this process on a discretionary basis. The voice of each process is the combination of the average, upper control limit, and lower control limit. These parameters shall drive the selection of targets or goals. The Contractor shall dictate targets or goals by the process potential as defined by the process behavior charts.

E.1.16.1 The Contractor shall define critical manufacturing processes, explain each element in the list in a narrative form, and submit both to the Government for review in accordance with CDRL E006, List of Critical Manufacturing Processes and Modifications. The List of Critical Manufacturing Processes shall be the origin of process behavior charts. The Contractor shall treat copies of all data, and completed process behavior charts as controlled documents and retained for the life of the contract. The Contractor shall allow the Government to review all process behavior charts.

E.1.17 Error-Proofing.

The Contractor shall be responsible for developing and implementing error proofing to ensure part presence and orientation of all assembled or kitted parts. Each assembly requires in-process checks and error-proofing tools be used so that assembled or kitted parts are conforming to the Technical Data and SPIs prior to release of product for shipment to the customer. When the Contractor cannot achieve error proofing through design, process error-proofing measures shall begin with prevention and then employ detection techniques. Error proofing is the requisite method for kit acceptance. The Contractor shall limit the use of inspection methods for product conformance.

The Government and the Contractor shall review error-proofing approaches used to improve the production process during the APQP, FMEA,
The Contractor shall plan and execute its error proofing process in accordance with the following requirements:

a) The Contractor shall develop an error-proofing plan. It shall describe how the Contractor and Subcontractors shall address error proofing from the organizational level.

b) Part of this plan shall be the development, labeling, handling, and contingencies for boundary samples. Boundary samples may consist of go-no go samples, master samples, and red rabbits.

c) The plan shall require risk mitigation for all RPNs in the DFMEA and PFMEAs that are seven or higher in severity, and if the occurrence number is greater than one. In such instances, the Contractor shall employ error proofing in assembly or kitting processes. The severity and occurrence limits assume the Contractor and Subcontractors use a one (1) through 10 scale.

d) Error proofing is required for all special processes and key, special or critical product characteristics.

e) The Contractor and Subcontractor(s) shall compile a list of all the error-proofing techniques used and included as part of a control plan. The Contractor shall add error-proofing verification to written preventive maintenance plans.

f) All assembly or packaging process equipment shall leave physically identifiable marks or using software, such as a barcode, on the parts that are indicative of a successful operation.

g) The Contractor shall evaluate dimensional features affecting form, fit, or function, which may not be capable or consistent, in the error-proofing process.

h) When the Contractor cannot designate positive alignment features into the product then the Contractor shall add process features to error proof the assembly or kitting processes. Equipment examples consist of:

- Laser lights
- Fixtures
- Equipment modifications
- Dead man outlines
- Templates (for type, size, or number of parts):
  i) Assembly or kitting processes involving mirror image parts (right and left hand parts) shall have error-proofing techniques employed by the Contractor and Subcontractors to prevent assembly and packing errors.

j) To ensure the correct parts are picked for assembly or kitting, one or more of the following methods shall be used:

- Barcodes
- Pick lights
- Templates
- Light curtains
- Color coding
- Kan Ban

k) The Contractor and their Subcontractors shall select an audit form from the Automotive Industry Action Group (AIAG), Error-Proofing Manual, CQI 18 (2011) based on organizational requirements and the type of effort. The audit requirements shall apply to the Contractor and Subcontractors who manufacture, assemble or kit parts. The Contractor and Subcontractors shall complete the audit form prior to start of kit production and in accordance with CDRL E007, Error-Proofing Audit Results and Corrective Actions. If the audit score is less than 75%, the Contractor shall write an audit plan to crosswalk the audit deficiencies with associated corrective actions. The Contractor shall write a corrective action report to demonstrate how to raise the score above 75% and submit it in accordance with CDRL E007, Error-Proofing Audit Results and Corrective Actions.

E.1.18 Cost of Quality
A Contractor shall implement and maintain a Cost of Quality System. It shall encompass all the recognized sources of quality cost. These consist of costs in the standard categories of Prevention, Appraisal, and Internal and External Failure costs. The Contractor shall present the trend in the progress toward lowering the overall cost of poor quality and the status of prevention and appraisal to the Government as a percentage of FMTV Protection Kit monthly sales in dollars. The Contractor shall present the trends, consisting of a process behavior chart, to the Government during each MMR in Microsoft PowerPoint, a tool under MS Office, consisting of one process behavior chart for each of the four (4) categories of quality cost. The Contractors presentation shall exclude bar charts, stacked bar charts, pie charts, and run charts. The Contractor shall not set arbitrary goals, as these charts do not fulfill the requirements of a trend analysis. The tracking and elimination of failure costs shall be part of the Contractors continual improvement processes; the Contractor shall report this information at the MMR. (As submitted under CDRL A001, Agenda, Read Ahead, and Minutes). The Contractor shall submit the cost of quality charts in accordance with CDRL E008, Cost of Quality Process Behavior Charts.

E.1.19 Customer Satisfaction Measurement and Reporting

The Contractor shall measure and report the results of customer satisfaction surveys and the results of performance indicators from the finished product and service fulfillment processes. The Contractor shall base all of these measurements and results on objective data. The objective metrics shall consist of:

a) De-processing defects
b) Final kit defect measurements
c) Performance to the delivery schedule
d) Number of customer requested corrective actions including PQDRs.
e) Time to close customer requested corrective actions
f) Cost of Quality data
g) Customer Satisfaction Surveys

The Contractor shall present the positive or negative trends observed from these metrics as well as corrective actions associated with the negative trends to Government regularly at the MMRs. The Contractors management team shall provide the resources required to collect, analyze, and present the customer satisfaction data. The Contractor shall compare the trends in customer satisfaction metrics to business plans with incorporated quality plan objectives. The Contractor shall take corrective action in response to negative trends and alter long-term plans. The Contractor shall present trends in areas of mutual concern using graph or chart formats approved jointly by the Contractor and the Government. (As submitted under CDRL A001, Agenda, Read Ahead, and Minutes).

E.1.20 Infrastructure Requirements.

The Contractor shall determine, provide, and maintain the infrastructure needed to achieve conformity to product requirements. Infrastructure includes:

a. Buildings, workspace, and associated utilities
b. Process equipment (both hardware and software)
c. Supporting services

The Contractor shall develop a plan for facilities and equipment. Plant layouts shall optimize material travel, handling, and value-added use of floor space and shall facilitate synchronous material flow. Methods shall be developed and implemented to evaluate and monitor the effectiveness of existing operations.

A preventive maintenance plan for all Contractor-owned or leased manufacturing equipment shall be developed and delivered for Government review in accordance with CDRL E009, Preventive Maintenance Plan.

E.1.21 Contingency Plans.

The Contractor shall prepare contingency plans to ensure on-time delivery and quality product in the event of an emergency such as acts of nature, utility interruptions, labor shortages or strikes, part shortages, key equipment failures, or field returns. Contingency Plan requirements shall be flowed down to all Subcontractors and the Contractor shall retain the Subcontractors contingency plans.

E.1.22 Continual Improvement by Corrective and Preventive Actions
The Contractor shall develop and maintain a system for continual improvement of the QMS. The Government reserves the right to review records and results of the Contractor's system that demonstrate the progress made in continual improvement projects. Continual improvement shall be measured using process behavior charts or statistical process control tools recognized in the Statistical Process Control Reference Manual from AIAG. The Contractor shall treat copies of all completed actions and associated documents as controlled documents and retain the documents for the life of the contract. The Government reserves the right to request a presentation supporting the progress or conclusions of selected actions during MMRs.

E.1.23 Systemic, Critical, and Major Defects, Deficiencies, or Failures

The Government defines a failure, defect, or deficiency as the condition of not achieving the requirements in the technical data. The Government defines a systemic defect as the classification of failures that occurs or may occur with a frequency, pattern, or sameness to indicate a regularity of occurrence which exceeds the expected failure rate by 100% as set forth in the Provisioning Master Record, which would justify multiple end items corrective action. A critical defect results in hazardous or unsafe conditions for users or maintainers. It will further prevent the kit from its tactical function or its survivability. A major defect results in a failure to be able to use the part or kit for its intended purpose. The Government reserves the right to perform inspections and to test any components used in the kits. If the Government finds systemic, critical, or major defects, deficiencies, or failures, the Contractor shall correct the defects, deficiencies, or failures at no additional cost to the Government. The Contractor shall recall and fix (retrofit) all kits built or tested since the last successful component or system test.

The Government shall be notified within 24 hours if the Contractor or a Subcontractor finds, is notified, or identifies a systemic, critical, or major defect, deficiency, or failure. Notification shall include:

- Date of occurrence
- Nature of occurrence
- Effective range (by serial number, lot number, or population)
- Safety impacts
- Preliminary or suggested correction

Corrective actions - see paragraph E.1.24.1, Corrective Action Submissions and Re-Submissions are required for all of the defects defined in this section.

Prior to Government acceptance, all costs associated with the recall, re-work, re-inspection, validation testing, and investigation and validation of root causes, and implementation of permanent corrective actions shall be borne by the Contractor.

E.1.24 Corrective Action, Problem Solving, and Preventive Action

The Contractor and Subcontractors shall design, implement, and maintain a corrective action, problem solving, and preventive action system and processes.

E.1.24.1 Corrective Action Submissions and Re-Submissions

The Government requires containment and a preliminary root cause analysis within 30 days of the discovery or report of the problem. If the Government rejects the corrective action report in the 8D format, the Contractor shall resubmit with updates. The Contractor shall make corrections within seven days of the Government's disapproval. If the cycle of re-submissions continues for more than 90 days, the Government may stop FMTV Protection Kit acceptance until the Contractor provides an acceptable root cause analysis. The Contractor shall be responsible for all costs associated with re-inspection and associated testing to validate the planned corrective action submissions and re-submissions. When directed by the PCD, the Contractor shall be required to retro fit all kits covered under this contract.

E.1.25 Product Quality Deficiency Reports (PQDR)

In accordance with AR 702-7 (25 April 2005), Product Quality Deficiency Report Program and Army Regulation AR 702-7-1, Reporting of Product Quality Deficiencies within the U.S. Army, the Contractor shall investigate and provide failure analysis and corrective action to all PQDRs (Standard Form 368) generated against supplies produced under this contract.

E.1.25.1 PQDR Exhibits

Within the context of the PQDR process, an exhibit is a deficient item, or a sample item that represents the deficient condition, that the Contractor or Subcontractor(s) can analyze to determine the cause of the defect. (Ref. AR 702-7-1, Reporting of Product Quality Deficiencies within the U.S. Army) The Contractor shall evaluate each PQDR issued to them. If the Contractor requires the PQDR originator to provide an exhibit, the Contractor shall submit an exhibit request to the Government within three (3) business days of receipt of an investigative request (Notice of Defect (NOD)) from DCMA for a Category I PQDR. For a Category II PQDR, the Contractor shall submit the request for exhibit within five (5) business days of receipt of the investigative request. The Government will request the exhibit from the originator and arrange for delivery to the local DCMA. Once the exhibit has arrived, representatives from DCMA and the Contractor shall be present for the opening of the package. Cost of exhibit transportation shall be the responsibility of the
E.1.25.2 PQDR Reporting. In response to the issuance of a PQDR to the Contractor, the Contractor shall provide a report of the investigation (within the Product Data Reporting and Evaluation Program [PDREP] system) which consists of the following sequence of items:

a. Team identification
b. Problem definition
c. Containment and short-term actions
d. Root cause analysis
e. Identification of permanent corrective actions
f. Implementation and verification of permanent corrective actions
g. Preventive actions

The Contractor and Subcontractors shall incorporate the aforementioned information into their own 8-Disciplines format (generically known as a CAR, or 8D report) and upload these attachments to the PQDR within the PDREP System. For a Category I PQDR in cases where no exhibit is required, the Contractor shall submit their final reply (specifically containing a completed 8D and all supporting documentation) to the PDREP system within 20 calendar days of receipt of the investigative request. For a Category II PQDR in cases where no exhibit is required, the Contractor shall submit their final reply (with completed 8D and supporting documentation) within 30 calendar days of receipt of the investigative request. In cases where an exhibit is required, the 20- and 30-day clock starts upon exhibit arrival as defined by the shipping company’s tracking system. The Contractor shall notify the PD MTV Action Point of the exhibit delivery status every five (5)-business days from the date of exhibit request submission. The Contractor shall commence with investigation, regardless of arrival of the exhibit.

E.1.25.2 PQDR Supporting Documentation.

The Contractor shall provide the following documentation to substantiation of a Contractor or Subcontractor PQDR investigation:

a. Internal assessments
b. Test data
c. Certifications
d. Drawings
e. Digital photographs or videos
f. Production records
g. Traceability data
h. Suspect population definition

In cases where one or more of these data elements are not relevant to a particular PQDR, the Contractor shall request concurrence from the Government PQDR action point.

E.1.25.3 PQDR Corrective Actions and Closure.

All corrective actions taken by the Contractor in response to a PQDR shall be at no additional cost to the Government. The Contractor shall not incorporate a configuration change resultant from a PQDR corrective action until the Government approves an ECP and the PCO issues a formal contract modification to incorporate the change. All PQDR investigation reports, 8-Ds and associated corrective actions shall require approval by Government Quality Assurance before the Government concurs to PQDR closure. The Government formally closes a PQDR when the PDREP system shows a value of G within the Location of PQDR Code field. PQDR final replies submitted by the Contractor, but rejected by Government Quality Assurance, do not stop the 20- and 30-day submission suspense clock. In such cases, the Contractor shall continue to pursue PQDR resolution until the Government concurs with PQDR closure. The Contractor and Subcontractors shall document all PQDRs as a customer complaint against their QMS.
E.1.25.4 PQDRs for GFE or Government Furnished Material (GFM).

The Contractor shall write PQDRs on GFE or GFM within 30 calendar days of receipt if non-conformances, defects, or deficiencies exist. The Contractor shall submit Standard Form 368, Product Quality Deficiency Report, to the PCO to report these GFE or GFM issues. The Contractor shall provide supporting documentation with the submission consisting of photographs, shipping documents, inspection reports, and other information pertinent to the findings.


The DoD Instruction 4140.01, DoD Supply Chain Management Policy, defines counterfeit as material whose identity or characteristics deliberately misrepresented, falsified, or altered without the legal right to do so. Part traceability consists of the names and locations of every company within the supply chain that had contact with the part. This can include the manufacturer, supplier, or distributor. The Contractor shall verify the supply chain all the way to the end user to exclude counterfeit parts. The Contractor shall establish, implement, and maintain documented procedures to identify part origin and traceability to preclude the use of counterfeit parts in production and shall impose the same requirements on Subcontractors.

E.1.27. Production Parts from Outside the US.

The Contractor and Subcontractor(s) shall annotate, as part of the PPAP Part Submission Warrant (PSW) documentation, if the Contractor or Subcontractor(s) procure parts or assemblies outside the United States of America (see E.2.9 PPAP).

E.1.28. Critical Safety Item (CSI). The Government defines CSIs as a part, assembly, or support equipment with one or more characteristics whose failure could cause loss of life, permanent disability, or major injury, loss of a system, or significant equipment damage. The Contractor shall identify CSIs within the Technical Data for all current designs, new designs, or design changes. The Contractor shall submit a list to the Government in accordance with CDRL E010, List of CSIs. This CDRL shall be a master list of CSIs and their critical characteristics, including nomenclature and part number. The Contractor shall maintain it. This list shall be dynamic with changes taking place as the Contractor obtains experience and knowledge and the incorporation of design changes through ECPs, deviations, and waivers.

The Contractor shall evaluate the criticality of CSIs in accordance with paragraph 4.3.18.6, of the Defense Acquisition Guidebook, Critical Safety Items. The Contractor shall validate requirements pertaining to CSIs to ensure all critical safety aspects of the design are considered during manufacturing or assembly. The Contractor shall rate CSI requirements on a scale of 1 to 10 in the preparation of DFMEAs and PFMEAs using the instructions in the AIAG FMEA Manual. The rating of severity shall be no lower than nine (9), the rating of detection shall be no lower than eight (8), and the rating of occurrence shall be no lower than seven (7) on the ten (10) point scale defined in the FMEA Manual.

The Contractor shall base validation of designs including CSIs on engineering analysis of the CSIs characteristics. The validation shall consider changes or deterioration through time, use, fatigue life, or operating conditions.

The Contractor shall add all CSIs discovered during the execution of this contract to the Technical Data via the ECP process. The Contractor shall clearly identify each CSI in the Technical Data Quality Assurance Requirements or QAPs. Critical Safety characteristics shall require 100% inspection unless the Contractor or Subcontractors can demonstrate 100% verification employing an error-proofed process to the Product Assurance Office of PD MTV.

Major Characteristic – A characteristic in which a defect could cause a complete physical or functional failure. The following list consists of evaluation criteria for the determination of a major characteristic:

a) Identification of a major characteristic in a DFMEA per the AIAG FMEA Manual requires a severity rating of 7 to 10.

b) A lack of interchangeability, reliability, or maintainability of the items. Major characteristics adversely affect the operational readiness of the vehicle onto which the kit is applied. The Defense Acquisition Guidebook (2017) Section 4.3 defines Operational Readiness as, the capability of a unit/formation, ship, weapon system, or equipment to perform the missions or functions for which it is organized or designed.

c) Performance requirements specified in the Technical Data.

d) Electrical and electronic characteristics consisting of inductance, circuitry, voltage, amperage, resistance, crimping, soldering, continuity, and functional dimensions.

e) Major components that require interface for functionality.
f) Material specifications consisting of chemical composition, hardness, surface hardness depth, location of surface hardness, surface finish, microstructure, grain size, grain flow, grain type, tensile strength, yield strength, chemical composition, impact strength, compression, ozone resistance, and fluid and heat aging resistance.

g) Thread characteristics consisting of pitch, angle, depth, handedness, type, coarse versus fine, or torque requirements.

h) Fastening or fabricating requirements consisting of welding, brazing, soldering, staking, or bonding affecting reliability, interchangeability, or function.

E.1.29 Final Inspection Record (FIR).

E.1.29.1 The Contractor shall submit a Final Inspection Record (FIR) for Government approval in accordance with CDRL E011, FIR and Modifications. One hundred percent of the Final Inspection of the end item shall be compliant with the requirements in the Technical Data and the Government approved FIR. The Contractor or the Government shall describe deficiencies disclosed during inspection in writing on the Deficiency Sheet attached to the FIR. If the Government or the Government determine that the FIR is not complete or sufficient for final inspection of the end item, the Contractor shall coordinate with PD MTV Quality to update the FIR. The Contractor shall submit the updated FIR to the Government for a disposition under CDRL E011, FIR and Modifications. Deficiencies discovered by the Government or Contractor shall be returned to production or design for corrective action.

E.1.29.2 FIR Composition. The FIR shall be prepared in Contractor format using Microsoft Excel and shall contain all examinations and tests performed by the Contractor on each kit during their manufacture, assembly, and final inspection. The FIR shall list each kits characteristic and function for inspection in accordance with the Technical Data. The Contractor shall ensure that all components belonging to the kits have IUID tags per the marking of tangible items or assets mandated in the DFARS clause 252.211-7003. The Contractor shall utilize an IUID scanner to verify the correct tag is on the scanned part and kit and shall correct all errors that result during scanning of the tags. The Contractor shall document the results of the IUID tag scans on the FIR and verified by the Government.

E.1.29.3 FIR Organization. The Contractor shall organize the FIR so it is compatible with assembly and kitting. The FIR shall contain a revision letter, date, and a change log every time the Contractor modifies the FIR. The FIR shall have blocks for the initials or stamp of the Contractors inspector. This indicates that each characteristic and function was inspected and either accepted or rejected. The Contractor shall add another block for re-inspection and acceptance of a rejected characteristic or function. There shall be corresponding blocks for Government acceptance by initials or stamp. The Government may elect to witness and participate in the Contractors final inspection. The Contractor shall indicate final review and acceptability by a signature block containing the full name and title of the responsible company official. The Contractor shall modify the FIR to reflect all engineering and manufacturing changes that impact kits. The Contractor shall submit the completed and certified copy of the FIR to the Government Inspector with each item inspected and offered for acceptance.

E.1.29.4 FIRs for Kits. The Contractor shall conduct conformance inspection for FMTV Protection Kits as follows:

a. Audit of kitting process to ensure completeness to the TDP
b. Verification of kits to drawing requirements
c. Verification of kit marking
d. Documentation of kit using a FIR

E.1.30 Kit Inspection Standards. The Contractor shall develop standards to identify attribute type characteristics and shall define the associated accept or reject criteria. These shall consist of cosmetic and workmanship standards with photographs. The Contractor shall maintain and update inspection standards to include all new defects. To supplement inspections, the Contractor and Subcontractors shall also develop visual aids consisting of photos, drawings, diagrams, or hardware displays depicting acceptable and unacceptable conditions. These visual standards and aids shall be available as acceptance criteria for workers, inspectors, and the Government. The Contractor shall make all visual inspection standards available for Government review on request.

E.1.31 Care, Storage, and Maintenance (CSM) of Kits

E.1.31.1 To ensure that kits and kits in ISO containers remain in an acceptable condition, the Contractor shall develop a CSM plan in Contractor format, and submit it to the Government for approval in accordance with (CDRL E012, Care, Storage, and Maintenance Plan and Modifications). The CSM plan shall consist of:

a) A layout of the storage area(s) defining security measures to prevent theft and vandalism
b) Documented work instructions

c) A flowchart of the process

d) An inspection schedule

e) A description of inspections with signature block per inspection for all kits and ISO containers in the care of the Contractor

E.1.31.2 Upon every inspection, the Contractor shall document:

a) What was checked

b) How the checks were accomplished

c) The results of the visual examination

d) All problems discovered during the inspections, parts replaced, and repairs made

E.XXX The Contractor shall provide a DCMA representative access to audit this process to ensure compliance. The Contractor shall save completed check-sheets in an electronic format and treat them as controlled records. The Contractor shall sort and make the records retrievable by:

a) Date of inspections

b) Kit and/or ISO container serial number

The Contractor shall make the completed check-sheets available to the Government on request and be held a minimum of one year after production of the last kit produced under this contract

E.1.31.3 CSM of Conditionally Accepted Kits Prior to Shipment. The CSM for conditionally accepted kits and ISO containers starts 30 calendar days after conditional acceptance. In the event the Government does not elect to ship conditionally accepted kits, the Contractor shall, at no cost, care for and store all kits and ISO containers in this category. Once the Government lifts conditional acceptance, the Contractor shall continue to care, store, and maintain kits and ISO containers until shipped.

E.1.32 Welding Requirements.

E.1.32.1 Welding Design. The Contractor and the Subcontractors shall ensure that all steel and aluminum weldments meet the design and fabrication requirements in American Welding Society (AWS) D 1.1 (23rd Edition) and (AWS) D 1.2 (6th Edition). The AWS Codes specification shall be the basis for all weld reviews.

E.1.32.2 Welding Procedures. Prior to production or repair welding operation, the Contractor and Subcontractors are responsible for developing and preparing fusion and resistance welding procedures in accordance with AWS weld code requirements and submit in accordance with CDRL E013, Welding Procedures and Modifications. Resistance welding procedures shall be prepared and validated as recommended by ANSI/AWS D8.7 and AWS C.1.3. Fusion welding procedures shall allow a uniform format that complies with AWS D1.1. The use of pre-qualified weld joints as specified in AWS D1.1 does not preclude submittal of welding procedures. Repair welding of defective parts shall require Government approval and a written procedure identifying proper technique and approach to correct defective product. The Contractor and Subcontractors shall consult Attachment 0021, MIL-STD-3040, Arc Welding of Armor Grade Steel for qualifying and repair of non-ballistic or ballistic welding processes.

Attachment 0021, MIL-STD-3040 Arc Welding of Armor Grade Steel (initial release 2016) is a distribution C document, making it available only to Government agencies and their Contractors. In order for a Contractor or Subcontractor to obtain this document, they must obtain a copy through their Contracting Officer or Contracting Officers Representative (COR). The COR will confirm that the Contractor is working for the Government.

E.1.32.3 Revised Welding Procedures. If the Contractor or Subcontractors find it necessary to deviate from Government approved welding procedures, they shall submit revised welding procedures to the Government for approval in accordance with (CDRL E012, Welding Procedures and Modifications). The Government reserves the right to apply a disposition to all revised weld procedures. The Contractor shall obtain Government approval of all revised procedures prior to their use to fabricate production weldments. If a Subcontractor will not release proprietary information, the Government reserves the right to conduct an on-site review of the Subcontractors quality system and weld processes to verify capability to produce acceptable welds (see paragraph E.1.2.4, Contract Flow Down).

E.1.32.4 Previously Qualified Welding Procedures. If the Contractor or Subcontractors have previously qualified welding procedures under another DOD contract, the PCO may waive the requirements of this clause. The Contractor and Subcontractors shall submit such a request to the PCO in writing, identifying the previous contract(s) under which the Contractor and Subcontractors submitted qualified
procedures that produced acceptable workmanship specimens. The Government may grant a waiver to the Contractor and Subcontractors if they meet all of the following requirements:

- a. The weld procedure was qualified and approved on a previous DOD contract
- b. The Contractor and Subcontractors have certified welders and equipment
- c. There was no break in production for more than three months
- d. A favorable quality history

E.1.32.5 Welder Qualification. The Contractor and Subcontractors shall ensure the welders or welding operators are qualified before assignment to perform manual, semi-automatic, or automatic welding work, or use automatic welding equipment for work performed on FMTV Protection Kits. The Contractor shall ensure the use of certified welding equipment in the performance of the contract. The Contractors or Subcontractor(s) welders or welding operators shall have passed qualification testing, as prescribed by the applicable AWS.

E.1.32.6 Visual Weld Inspection. The Contractor and Subcontractor(s) shall verify weld quality and workmanship to AWS D1.1. The contractor shall ensure performance of weld inspections using qualified inspectors trained to perform these functions. Acceptable qualification of the Contractor and Subcontractors inspectors may be based on:

- a. Current or previous certification as an AWS Certified Welding Inspector; or
- b. Current or previous certification by the Canadian Welding Bureau (CWB); or
- c. Inspection performed by an engineer or technician based on formal training or experience, or both, in metals fabrication (welding), inspection, and testing.

E.1.32.7 Contractor and Subcontractor Certified Welding Inspector (CWI). The Contractor and Subcontractors that engage in welding shall employ a CWI. The CWI need not be resident, but shall and shall be available to the welding Contractor and Subcontractors when needed to give a disposition to parts destined for MTV kits. The Contractor and Subcontractors shall perform in-process inspections in various areas of the welding process with CWIs in accordance with AWS D1.1 or D1.2. The Contractor shall make the results from the in-process inspections available to the Government on request.

E.1.33 Radiographic Inspection. The Contractor shall accomplish radiographic inspection of production aluminum and steel castings in accordance with the TDP as follows:

- a. Operators and radiographic equipment shall be qualified in accordance with NAS 410 (2014), Certification for Non-Destructive Testing Personnel, prior to X-raying production castings.
- b. The Contractor shall radiograph the first casting in all routine and random positions described on the position chart.
- c. The Contractor shall radiograph subsequent castings in those areas found to have defects or were defective in the immediately preceding castings, until compliance with the required standard is obtained.
- d. The Contractor and Subcontractor(s) shall meet the standard specified on the applicable position chart(s).
- e. The Contractor and Subcontractor(s) shall provide objective evidence that it has taken corrective to eliminate the root cause(s) of the defect(s). The objective evidence shall consist of radiographs, acceptance or rejection criteria, photos, a written report, chemical, physical, and mechanical analyses. The Contractor shall submit the objective evidence for Government approval in accordance with CDRL E014, Radiographic Corrective Action Report.

E.1.33.1 The Contractor shall submit repair procedures to the Government for approval. The Contractor shall implement the Government-approved repair procedures contained in the corrective action reports. After the implementation of the Government-approved Corrective Action(s), then normal sampling shall resume. Normal sampling shall consist of radiographing one sample casting selected by the Government Quality Assurance Representative (QAR), out of each 30 produced. The Contractor shall take samples from each production shift or lot.

E.1.33.2 The Contractor shall radiograph all routine and random positions on each sample casting. The Contractor shall rotate the
sample casting in such a manner that they achieve complete coverage within a cycle of five castings radiographed. The occurrence of a defect shall require the radiographic inspection of each subsequently poured casting. If the results of radiographic inspection on ten consecutive lots of material show no further evidence of the previously found defects, the Government may reduce the amount of radiographic testing.

E.1.34 Nondestructive Testing (NDT) Requirements: The Contractor shall perform all nondestructive testing and inspection using personnel trained and certified in accordance with American Society for Non-destructive Testing (ASNT) SNT-TC-1A (2016), Personnel Qualification and Certification in Nondestructive Testing. If the NDT inspectors employed (Contractor or Subcontractor) does not develop a training and certification program and administer the tests, then certification exams shall be given by a third party organization in accordance with ISO9712 (2012), Nondestructive Testing Qualification and Certification of Personnel. Operators performing nondestructive testing under this contract must be Level III certified by either ASNT scheme of self-certification or by the ISO9712 of third party certification.

E.1.35 Armor Cleanliness Requirements. The Contractor shall provide armor to the Government free of organic and inorganic soils or contaminants prior to pre-treatment and after blasting, grinding, or other surface preparations to reduce contamination or control surface profile. See Drawing 12505460D, Treatment and Finish Requirements, LTAS.

E.1.35.1 The Contractor shall provide evidence to the Government of clean armor plates using water break tests before pre-treatment and coating.

E.1.36 Prior to Primer or Paint. The Contractor shall rinse parts and assemblies following all cleaning or pretreatment process to remove residual material remaining from the prior operation with the chemical suppliers recommendations to prevent interference with subsequent process steps. The Contractor shall ensure rinsing of complex shapes to prevent contamination of all subsequent cleaning or coating process. The Contractor shall monitor reused or recycled rinse water in a cleaning or pretreatment system for contaminants and controlled in accordance with the technical requirements of the chemical supplier. The Contractor shall ensure crevices, seams, pockets, blind holes, and other difficult to dry places prior to painting are completely dry.

E.1.37 End-Item Paint Requirements. The Contractor shall ensure all painting operations and inspections comply with Drawing -12420325H and MIL-DTL-53072E, Chemical Agent Resistant Coating (CARC) System Application Procedures and Quality Control Inspection. In the event of a discrepancy between Drawing 12420325, Treatment and Finish Requirements, MTV and MIL-DTL-53072 requirements, MIL-DTL-53072 shall take precedence. Additional finish requirements shall be in Attachment 0013, Alternate Materials. The Contractor or Subcontractor(s) shall not use CARC paint that is silica based for any kits. All CARC topcoat shall be polymeric flattened.

E.1.38 CARC Paint Pretreatment Requirements for Ferrous, Galvanized, and Aluminum Surfaces including Armor:

a) The Contractor shall clean and pre-treat ferrous and galvanized surfaces in accordance with TT-C-490F, Type I, Federal Specification: Chemical Conversion Coatings and Pretreatments for Metallic Substrates (Base and Organic Coatings). Corrosion resistance tests on steel substrates shall be conducted monthly using two test coupons when solvent-borne primers are used. Two test coupons shall be tested bi-monthly when electrophoretic deposition coating (Electro-Coating or E-coat) primers are used. This test frequency shall begin once the process is in statistical control and capable using process behavior charts (Cpk 1.33 or higher).

b) All TT-C-490, Type I zinc phosphate pretreatment systems shall be documented and approved under the PPAP system (see paragraph E.1.9).

c) The Contractor and Subcontractors shall qualify and control the pretreatment systems for galvanized substrates. The contractor and Subcontractors shall test in accordance with the cyclic accelerated corrosion tests defined in GMW14872 (2013), Cyclic Corrosion Laboratory Test, rather than salt spray. This test shall be performed using two test coupons at three-month intervals to ensure that the process remains in statistical control and capable.

d) Aluminum substrates require a chromate conversion coating per MIL-DTL-5541F, Chemical Conversion Coatings on Aluminum and Aluminum Alloys.

e) The Government prohibits the use of TT-C-490 Type III, Vinyl Wash Primer (DOD-P-15328), due to its hexavalent chromium content and high concentration of Volatile Organic Compounds (VOC). The approved environmentally friendly alternative for wash primer is Bonderite 7400. The Contractor and Subcontractors shall document and approve the application and control process under the PPAP system. The Contractor and the Subcontractors shall follow the primer drying time instructions from the primer Subcontractor (MIL-DTL-53072, Detail Specification: Chemical Agent Resistance coating (CARC) System Application Procedures and Quality control Inspection) prior to topcoat (CARC) application. The Contractor and the Subcontractors shall follow data collection, data analysis, and process recommendations from the primer and topcoat providers. The Contractor and Subcontractors shall cure primers, if not force cured by ovens, for 24 hours before topcoat application.
E.1.39 Special Testing Requirements for Chemical Agent Resistant Coatings (CARC) on Metallic Surfaces Application:

The Contractor shall conform to the following standards for testing:

a) MIL-DTL-53039E, Coating, Aliphatic Polyurethane, Single Component, Chemical Agent Resistant


The Contractor shall not use Powder Coat Primers as a substitute for electro-coat primers.

E.1.40 Measurement of Dry Film Thickness (DFT). For substrates other than armor, the Contractor or Subcontractors shall determine the DFT by measuring the combination of the layers of E-coat primer and CARC topcoat after zeroing the thickness gage on top of the zinc phosphate coating.

E.1.41 Acceptance of production painted parts is contingent upon the painted surface (consisting of the zinc phosphate, E-coat primer, and CARC topcoat) meeting the dry film thickness and cross hatch adhesion requirements. The Government prohibits the use of multiple head cutters for acceptance testing if the coating thickness is greater than five mils. The painted surface shall be free of painting or coating workmanship defects such as:

a) Bisters
b) Pores
c) Coverage voids
d) Fixture, rack, or hook marks
e) Bleed-through
f) Scratches
g) Cracks
h) Runs
i) Sags
j) Drips
k) Orange peel
l) Fish eyes or craters
m) Solvent popping
n) Chipping
o) Blushing
p) Chalking
q) Lifting
r) Peeling
s) Adhesion and cohesion - lack of
t) Pin-holing

Workmanship The Government defines acceptable painting and coating workmanship as an absence of the defects listed in a-t above

E.1.42 Test Methods.

Dry Film Thickness. The Contractor shall verify film thickness with a non-destructive film thickness gage. The gage shall be capable of measuring over steel (including armor) and aluminum. The Contractor shall calibrate the gage to standards traceable to the National Institute of Standards and Technology (NIST).

The Contractor shall test Paint Adhesion in accordance with ASTM D3359 (2017), Standard Test Methods for Measuring Adhesion by Tape Test (Scribe Tape Test).

NOTE: These two tests are not a substitute for corrosion tests such as neutral salt spray or accelerated corrosion tests, which verify coating durability.

E.1.43 Dry Film Thickness Requirements. All applicable surfaces shall have complete paint coverage. Complete paint coverage is defined as the sum of the minimum thicknesses for individual elements of the paint finish as specified in the Dry Film Thickness Requirements Table below. Failure of the production or test sample shall result in rejection of the production lot that it represents.
Name of Offeror or Contractor:

| MIL-PRF-23377K, Epoxy Primers, High Solids Coatings | 1.5 1.0 - |
| MIL-DTL-53022E, Epoxy Primers Coating, Corrosion Inhibiting Lead and Chromate Free | 1.5 1.0 - |
| MIL-PRF-22750G, Epoxy Coatings High solids | 1.7 1.3 - |
| MIL-DTL-53030D, Primer Epoxy Coatings Water Based Lead and Chromate Free | 1.0 1.0 - |
| MIL-DTL-53039E, Aliphatic Polyurethane Single Component CARC | 3.2 1.8 - |

E.1.44 End-Item Paint Inspection. After the application and curing of the painted surface, the Contractor shall test and inspect two units per lot for the following qualities and their compliance to their associated specifications:

a) Total Paint Thickness

b) Paint Adhesion

E.1.44.1 The Government defines the complete paint finish is defined as the pre-treatment, primer, and topcoat applied to the substrate. Curing of the complete paint finish is dependent upon temperature, humidity, and paint film thickness. The Government defines curing as a process whereby a liquid coating becomes a hard film. An air cure is one method by which liquid coatings cure to a dry film. The Contractor can also achieve curing by forced air ovens. Each facility shall determine the time necessary to achieve sufficient adhesion to pass the scribe tape test. For purposes of this test, curing between 68-77 degrees Fahrenheit will take 24 hours.

The Contractor and the DCMA QAR shall define a lot as all units submitted to the Government for final acceptance at one time. The Contractor shall not use test panels in lieu of actual production units. At final inspection, the cumulative total paint film thickness of pre-treatment, primer, and topcoat shall conform to the sum of the minimum thicknesses for individual elements of the paint finish as specified in the Dry Film Thickness Requirements Table (above). The QAR will determine the number and type of locations on the components to spot-check, ensuring none of the paint defects listed in paragraph E.1.41 exist prior to this test. In addition, the Government will select two locations on each component in the lot presented to the Government to conduct the scribe tape test. Possible test locations on the components shall consist of:

a) Directly adjacent to a weld

b) On or directly adjacent to a machine cut or sheared edge.

c) On mechanically formed surfaces when lubricants or drawing compounds were used

d) On paint touch-up areas

The QAR will determine the precise location for each adhesion by scribe tape test. The Government will subject one percent of the quantity of kits procured in a production lot to a scribe tape test. The QAR shall decide if additional testing is necessary. The Contractor and Subcontractors shall, upon completion of the scribe tape test, feather into and touch-up adjacent areas, with the types of pre-treatment primer and topcoat approved for touch-ups on drawing 12420325, Surface Treatment and Finishing Requirements, LTAS. When the touch-up primer and topcoat CARC are dry to the touch, the Contractor and Subcontractors shall ensure the DFT of the tested area falls within the range of the specification listed in the Dry Film Thickness Requirements Table (above).

E.1.45 Paint and Coatings Adhesion and Cohesion Testing. The Contractor and Subcontractors shall make panels for adhesion testing out of the same substrate material as the material used for production parts. The Contractor and Subcontractors shall perform these tests throughout MTV kit production. This test shall be done in accordance with ASTM D4541 (2009) Method B, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers, using Positest testing equipment to ensure adhesion and cohesion.

E.1.46 Additional Paint Requirements - Pre-Production Testing and Approval of Contractors Paint Systems. The Contractor shall have pre-production approval from Armament Research Development and Engineering Center (ARDEC) for their paint systems. The Contractor shall submit test panels for pre-production testing and approval of the processes of pre-treatment, priming, and painting. The Contractor and Subcontractors shall ensure the zinc phosphate, primer, and CARC topcoat systems are within the specification limits at the time of test.
panel production. The Contractor and Subcontractors shall make the test panels from the following materials:

armor
hot rolled steel
cold rolled steel
Galvanized materials
aluminum

E.1.46.1 Pre-production testing shall consist of:

a) Neutral salt spray
b) Adhesion
c) Permeability
d) CARC spectral analysis certificate from the Army Research Laboratory (ARL)
e) SEM/EDS (Scanning Electron Micrograph/Energy Dispersive X-Ray Spectroscopy and Microanalysis Characterization)
f) A compatibility statement from the primer and topcoat Subcontractors (unless they are the same manufacturer) stating the e-coat primer and top coat will adhere to one another and are compatible.

g) Process behavior charts shall measure zinc phosphate parameters and shall be within the specification limits, in statistical control, and capable (Cpk 1.33 or higher). The zinc phosphate parameters shall consist of the following:

Free acid
Total acid
Total concentration
pH
Temperature
Coating weights
Neutral salt spray

h) The panels prepared with e-coat primer shall be prepared while the e-coat system is fully charged, within specification limits, and in statistical control and capable (Cpk 1.33 or higher). The pre-production qualification tests shall consist of:

Coating thickness (wet and dry film)
Adhesion
Permeability
Neutral salt spray

i) Panels shall be prepared using ARL approved CARC paint (the Contractor shall provide certificate showing ARL approval) and shall be subjected to the pre-production qualification tests:

Adhesion
Cohesion
Neutral salt spray
Dry and wet film thickness

The Contractor shall contract for pre-production testing at either a third party independent laboratories mutually agreed upon with the Product Assurance associates in PD MTV or alternatively at the Governments laboratory at Rock Island Arsenal at the address below:

ARDEC Corrosion Control Group
The Contractor shall pay for all testing and all subsequent testing due to testing failures, regardless of the facility chosen to do the tests.

E.2 Production Verification Testing.

E.2.1 Production Verification Test (PVT): The PVT will be conducted by the Government at Government Aberdeen Test Center (ATC) at Aberdeen Proving Ground (APG), MD.

E.2.2 Test articles: IAW CLINs 0071, 0081 and 0091, the contractor shall ship the following kits to ATC, APG MD:

<table>
<thead>
<tr>
<th>KIT #</th>
<th>KIT NOMENCLATURE</th>
<th>QTY. AT ATC</th>
</tr>
</thead>
<tbody>
<tr>
<td>57K6013</td>
<td>Kit, Cab Armor w/58 gallon FTFS Kit</td>
<td>4</td>
</tr>
<tr>
<td>57K6427</td>
<td>Kit, Armor, Underbody</td>
<td>4</td>
</tr>
<tr>
<td>57K6428</td>
<td>Kit, Counterweight, M1078 Underbody Kit</td>
<td>4</td>
</tr>
</tbody>
</table>

Kits to be delivered to ATC, APG MD

The contractor shall provide the kits and furnished items shall be IAW CDRL E005, "Kit PPAP Plan for Inspection at Contractors Facility and Fit-Up Plan at APG". Delivery of PVT kits is required 240 Days After Contract Award (DACA). PVT will commence immediately upon receipt of the PVT kits at ATC, APG, MD.

E.2.3 PVT Location. Transportation charges from the Contractor's production facility to and from the ATC, APG, MD test site shall be the sole responsibility of the Contractor.

E.2.4 Requirements Applicable to Production Verification Test

E.2.4.1 Under no circumstances shall any test items be shipped from the Contractor's facility to the test sites until:

1. A complete inspection has been performed on each kit by a Government team consisting of a formally designated representative of the ACO and a designated TACOM representative per CDRL E005, Kit PPAP Plan for Inspection at the Contractors Facility and Fit-Up Plan at APG.

2. All deficiencies disclosed by this Government inspection have been corrected by the Contractor and approved by the Government, as evidenced by the DD Form 250, signed by an authorized Government representative before shipment.

E.2.5 Contractor Involvement in Test

E.2.5.1 Contractor Field Service Representative (FSR) on-site support is required throughout the test period. The contractor will be allowed to observe kit installation and removals.

E.2.5.2 Each FSR supporting test shall obtain a secret clearance in order to gain unescorted access to the test site.

E.2.5.3 If parts listed in C.3.3 are missing, damaged during installation, removed, or cannot be installed during the kit fit up process, the Contractor shall be responsible for providing replacement parts within 24 hours of notification.

E.2.5.4 Office space for the field service representative (FSR) will not be provided by the Government.

E.2.6 Failure Analysis and Corrective Action Report (FACAR) Process

E.2.6.1 Failure Analysis And Corrective Action Report (FACAR). Test failure, defects, and deficiencies are defined as conditions that lack an essential quality element and a non-conformance to technical requirement. The Government will capture all test failures, defects, and deficiencies in Test Incident Reports (TIRs), released through VDLS [VISION (Versatile Information Systems Integrated On-line Nationwide) Digital Library System], and reviewed by the Government Test & Evaluation (T&E) IPT. A basic process flow chart is
provided in Attachment 0014 "TIR and FACAR Report Data".

E.2.6.2 The Contractor shall be responsible for accessing VDLS for all TIRs released during Government-specified tests. Receipt of a TIR is defined as the TIR Release Date. Upon receipt of a TIR, the Contractor shall determine the root cause of the failure and furnish a FACAR IAW CDRL E015, "FACAR, with the proposed corrective actions set forth in this contract provision.

E.2.6.3 FACAR Classifications

(1) **Critical.** A Critical TIR:
   (a) Involves a catastrophic or critical hazard related to health or safety of personnel (death or severe injury or occupational illness; Categories I and II per MIL STD 882).
   (b) Involves a catastrophic safety hazard to the item/system under test (unplanned system loss; Category I per MIL STD 882).
   (c) Reports test results that make test suspension or termination advisable.

(2) **Major.** A Major TIR:
   (a) Involves a marginal hazard to health or safety of personnel (Category III per MIL STD 882).
   (b) Involves a critical safety hazard to the item or system under test (unplanned major system damage; Category II per MIL STD 882).
   (c) Reports the inability of the test item (including diagnostic equipment, tools, publications, software, and so forth) to meet a critical or essential functional area, design, or performance requirement.
   (d) Reports test results that reflect inadequate performance.
   (e) Involves repetitive minor TIR incidents (see below) in which their cumulated effect could result in any of the above four conditions.

(3) **Minor.** A Minor TIR:
   (a) Reflects an actual or incident malfunction, defect, hazard, or negative finding that does not qualify as critical or major.
   (b) Reports test results that reflect marginal performance.

(4) **Information.** An Information TIR:
   (a) Reports modifications to the tested item; current condition of the tested item; test findings; subtest results; safety release information; or other types of information.

E.2.6.4 FACAR's are not required for TIRs that are charged to the following (in data block 43 of the TIR): Crew, Maintenance Personnel, and Hardware/Government Furnished Equipment (GFE), unless directed by the Government.

E.2.6.5 Contractor FSR's shall gather relevant failure related information needed to generate the FACAR. This includes, but is not limited to, failed part tag numbers, part nomenclature, part location, failure symptoms and maintenance procedures. If this information cannot, after a reasonable amount of effort, be obtained, then the Contractor shall call the designated PD MTV Test Manager. This information must be communicated to the Corrective Action Review Board (CARB) Chairman before the next CARB is convened.

E.2.6.6 Contractor may initiate a request to defer (i.e. group) FACAR's with identical root cause to a primary FACAR. The Government CARB Chairperson may unilaterally initiate a deferral or may agree with the Contractor's deferral request. FACAR's shall not be deferred until Official (written) Government CARB Chairperson Notification has been received.

E.2.6.7 TIR's and release to the FACAR Process: For Minor, Major and Critical TIR's, the clock for FACAR response times will start when posted to VDLS by the test site. Information TIRs do not need FACAR's. The Government reserves the right to re-open a TIR, submit it to the Contractor, and request a FACAR. This may occur if the incident recurs or shows signs of becoming a repetitive failure.

E.2.6.7.1 The CARB is the Government group responsible for reviewing and approving the contractor's proposed FACAR's. The CARB members determine if the Contractor's FACAR's are adequate and effective. The roles and responsibilities of the CARB members are determined by AR 73-1 and DA PAM 73-1. The Contractor's corrective action team membership shall directly correlate with the Government CARB members (also known as the Corrective Action Review Team or (CART)) to reflect all relevant program functions (i.e. Quality, Logistics, Maintenance, Systems Engineering, Safety, Transportability and MANPRINT/Human Factors).

E.2.6.8 FACAR Submission

E.2.6.8.1 The FACAR data stream (i.e. Section VI of the TIR) shall be prepared and delivered by the Contractor in the American Standard Code for Information Interchange (ASCII) format for Corrective Action data streams identified in Test Incident Report and Failure Analysis and Corrective Action Report Data, Attachment 0045, "TIR and FACAR Report Data" of the contract and as described in CDRL E015.
"FACAR". With the exception of the supporting documents, all required text shall be delivered to Army Test Incident Reporting System (ATIRS) in the ASCII format Corrective Action data stream format.

E.2.6.8.2 The first Contractor entry for each FACAR shall record OPEN in data block 100. No contractor entries are required in data blocks 102, 103, 104, and 105. Following the Final CARB, the PCO will provide the contractor with official notification on all closed FACAR's.

Once notification is received that FACAR's are closed, the contractor shall amend data block 100 to reflect COMPLETED.

E.2.6.8.3 The Contractor shall access TIR's through VDLS via https://vdls.atc.army.mil and deliver corresponding FACAR's to ATIRS via https://vision.atc.army.mil/atirs_login.html. The Government will provide procedures for obtaining contractor access to the VDLS system at the Start of Work meeting. Following the first FACAR CDRL submission (to assure system compatibility and smooth processing of emailed data deliverables), the Contractor shall confirm that delivered XML formatted Corrective Actions have been converted to permanent FACARs in VDLS. Upon observation by the Contractor, the Government CARB Chairperson shall be notified of delivered FACAR's that have not loaded in VDLS.

E.2.6.8.4 Supporting Documentation. The Contractor shall provide supporting documentation (internal assessment, supplier data, vendor analysis, test data, certifications, drawings, and digital photographs) for each FACAR. The supporting documentation shall be delivered in *.pdf format in conjunction with the FACAR. To track multiple source documents related to a single FACAR, the file name shall be composed of a sequential FACAR numbering system [Supplemental FACAR # - Version # .pdf].

For example:

TIR#-A.pdf ------ 1st document
TIR#-B.pdf ------ 2nd document
TIR#-C.pdf ------ 3rd document

For FACAR revisions, data blocks shall list any additional supporting documentation with the new file name.

E.2.6.8.5 FACAR Types: FACAR's may be interim or final. The interim provides the contractor recommended actions and the potential root cause of the failure. The final FACAR documents the agreed upon failure resolution and the root cause of the failure.

E.2.6.8.5.1 Interim FACAR's shall be provided by the contractor within the following specified time frames:

a. Critical Defect: 48 hours after the TIR Release Date. Note that the contractor shall also initiate a telecon with the Government within 24 hours to provide information on the status of the analysis of the defect.

b. Major Defect: 10 calendar days after the TIR Release Date.

c. Minor Defect: 20 calendar days after the TIR Release Date.

d. Informational: N/A.

E.2.6.8.5.2 Final FACAR's shall be provided by the contractor within the following specified time frames:

a. Critical Defect: 30 days after the TIR Release Date.

b. Major Defect: 30 calendar days after the TIR Release Date.

c. Minor Defect: 30 calendar days after the TIR Release Date.

d. Informational: N/A

E.2.6.8.5.3 Each FACAR's digital file structure must be in accordance with the detailed instructions in Attachment 0045 (Test Incident Report and Failure Analysis and Corrective Action Report Data) and include the following content:

1st line - Current Date/Name of team member generating the response

2nd line - Supporting Document file name per E.X.9.8.4

3rd line - Relevant content/date of the latest Government CARB Notification (if provided)
Data Block 106: Developers Analysis of the Problem.

1. Disposition of failed item.

2. Statement as to whether this is a pattern failure (if so, the reports of the other failure(s) shall be referenced).

3. Classification failure (independent or dependent).

4. Failure symptoms.

5. Failure mode.

6. Failure analysis methods and results to include a full investigation and analysis of each failed test exhibit at a level necessary to identify the root cause, mechanisms, and effects of that failure on the system.

7. Status of the contractors final investigation and any supplemental information related to the failure (i.e., any internal contractor assessments, records, reports, or correspondence).

Data Block 107: Status/description of the corrective action.

1. Description of appropriate alternative corrective actions for the individual equipment failed.

2. Status of the technical maturity of the proposed corrective action.

3. TWAD (Test Work Authorization Document) number, if applicable.

Data Block 108: Test results on the corrective action.

1. Expected useful life, i.e. projections of corrective action effectiveness based on tests and analyses.

2. Recommended corrective action.

Data Block 109: Planned Production Implementation.

1. Planned coordination effort.

2. Measures taken to prevent other failures.

Last line - "Action Complete".

All subsequent FACAR updates shall retain the stated structure.

E.2.6.8.5.4 If the Government CARB determines that a FACAR fails to address the criteria stated in E.X.9.8.5, the FACAR shall be rejected and a revised FACAR shall be delivered.

E.2.6.8.5.5 The Government CARB chairperson may agree with the contractor to extend or modify the time period for revised FACAR delivery. No corrective action shall be implemented until the contractor receives written notification from the Government CARB that the FACAR is closed. The Government CARB Chairperson may re-open FACAR’s due to changes in TIR classification, increased component failure rate, or incomplete and erroneous deliver.

E.2.6.8.5.6 Even if temporary schedule relief is granted by the Government for a FACAR approval, the contractor is responsible for meeting test schedule requirements in Section E. Inability of the Contractor to correct test deficiencies in a timely manner such that the overall test is extended, may result in an equitable adjustment to the Government.

E.2.6.8.7 FACAR Revisions: TIR Revisions as annotated in Data Block 1 shall be handled in the same manner as stated in E.X.9.8.1 thru E.X.9.8.5.6. FACAR Revisions shall include all previous FACAR deliveries. At the Contractor’s request, the Government CARB Chairperson may elect to waive the requirement to re-deliver a FACAR for a revised TIR if no significant change was recorded in the TIR.

E.2.6.8.8 Test Exhibits: The Contractor shall clearly mark, tag, and control each failed test exhibit received from the tester as it corresponds to its respective TIR. All identification markings and tags placed on a failed test exhibit by the tester shall be maintained with the exhibit. Each failed test exhibit supporting the FACAR process shall not be handled in a manner that may obliterate facts and evidence which may be viewed by the Government CARB as pertinent to the analysis. The Contractor shall be fully responsible for the storage of each failed test exhibit (no matter where the storage facility is located) and the item(s) shall remain stored.
pending disposition of the failure analysis and Government CARB notification and approval.

E.3 Test Meetings.

E.3.1 Corrective Action Review Board (CARB) Meetings. Approximately 30 Days after test there will be a CARB to review contractor corrective actions. Follow-on CARBs will be scheduled to review any rejected corrective actions. The contractor is expected to provide corrective actions for all TIRs classified in block 32 of the TIR as Critical, Major, Minors. The contractor shall attend all CARBs either by direct attendance or via telecon/videocon.

E.3.2.1 CARB Schedules. The Government will provide notification of all CARB Meetings; these meetings will be mutually agreed to by the Government and the contractor. Follow-on CARB meetings to review revisions are at the discretion of the Government and are subject to a written notification to the contractor.

E.3.2.2 CARB Preparation/Notification. Prior to the scheduled CARB meeting, the contractor shall provide an electronic CARB Meeting agenda IAW CDRL A001, Agenda, Read Ahead, and Minutes (DI-ADMN-81249A(T)) in MS Excel (*.xls) format. The agenda shall contain at a minimum the following information: TIR, Revision #, Date Occurred, Original Release Date, Release Date, Title/Maintenance Description, Mileage, Subsystem, Incident Class, Deferred TIRs (if applicable), contractors Failure Analysis, contractors Recommended Corrective Action, contractors Recommended Preventive Action, and contractors recommended FACAR status (CDRL E015). The contractor shall prepare and deliver CARB Meeting Minutes IAW the delivery requirements of CDRL A001 (DI-ADMN-81250A).

*** END OF NARRATIVE E0001 ***
SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 Government Furnished Information

H.1.1 The Government will provide the Contractor with the TDPs for the FMTV B-Kits, Underbody Armor Kits, and Underbody Counterweight Kits including Installation Instructions for each (Attachment 0001, Technical Data Packages). The Contractor shall print hardcopy sets of the installation instructions and pack one (1) set of hard copy instructions with each kit as specified in C.5.

H.2 Effective Period.

The effective period of this Indefinite Delivery Indefinite Quantity contract includes five (5) ordering years, which the Government defines as follows:

<table>
<thead>
<tr>
<th>Ordering Year</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Date of Contract award through 364 days after contract award</td>
</tr>
<tr>
<td>02</td>
<td>365 days after contract award through 729 days after contract award</td>
</tr>
<tr>
<td>03</td>
<td>730 days after contract award through 1,094 days after contract award</td>
</tr>
<tr>
<td>04</td>
<td>1,095 days after contract award through 1,459 days after contract award</td>
</tr>
<tr>
<td>05</td>
<td>1,460 days after contract award through 1,825 days after contract award</td>
</tr>
</tbody>
</table>

H.2.1 The Contractor shall commence deliveries no later than 240 calendar days after the award of each delivery order and shall complete the deliveries within 600 calendar days of the delivery order.

H.3 The Contractor shall maintain a valid Facility Clearance from Defense Security Service (DSS) for the entire duration of the contract. If the Contractor fails to maintain a valid Facility Clearance or the Contractors Facility Clearance is revoked for any reason, the Government may, by written notice, terminate the contract.

H.4 Organizational Conflicts of Interest (OCI)

H.4.1 The contractor and its subcontractors, consultants, parent companies, subsidiaries, joint ventures, or other business affiliates at any tier may be excluded from performing under this contract if the PCO determines that an OCI exists due to bias or unfair competitive advantage.

H.4.2. The contractor shall flow down this provision in any subcontracts or other related instruments (at all tiers). The contractor shall monitor its activities and the activities of its subcontractors and related entities, and promptly disclose any actual or potential OCIs and any actions taken or proposed to negate or mitigate such conflicts.

H.4.3. The contractor shall disclose any potential OCI situations to the PCO as soon as identified including prior to proposal submission and throughout performance of this effort. The disclosure must include the facts and an analysis of the actual or perceived conflict and a recommended approach to neutralize, avoid, or mitigate the potential conflict. The preferred approach to potential conflicts is to negate/obviate the conflict. Mitigation is considered only if it is not practical to negate/obviate the conflict. The PCO will promptly respond to resolve any potential conflicts.

H.4.4. If the contractor does not identify any potential OCI situations, it shall provide an affirmative statement that it does not have an OCI applicable. In such instances, the contractor shall provide this statement prior to proposal submission, and prior to award of any subcontracts, which may occur at any time during performance of this effort.

H.4.5. Remedies for breach of any of the above restrictions or for nondisclosure or misrepresentation of any relevant facts required to be disclosed concerning this contract, the Government may terminate the contract for default, disqualify the contractor for subsequent related contractual efforts, and pursue such other remedies as may be permitted by law or this contract.

*** END OF NARRATIVE H0001 ***
**SECTION J - LIST OF ATTACHMENTS**

**ATTACHMENT LIST ONLY**

<table>
<thead>
<tr>
<th>Number</th>
<th>Attachment Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>Technical Data Packages</td>
</tr>
<tr>
<td>0002</td>
<td>ISO and TRICON ISO Container Inspection Criteria</td>
</tr>
<tr>
<td>0003</td>
<td>DD Form 254</td>
</tr>
<tr>
<td>0004</td>
<td>PEO CS&amp;CSS Armoring Systems Security Classification Guide</td>
</tr>
<tr>
<td>0005</td>
<td>PEO CS&amp;CSS OPSEC Plan</td>
</tr>
<tr>
<td>0006</td>
<td>Windchill User Guide</td>
</tr>
<tr>
<td>0007</td>
<td>Instructions for Preparing ECP Forms</td>
</tr>
<tr>
<td>0008</td>
<td>Instructions for Preparing RFV Forms</td>
</tr>
<tr>
<td>0009</td>
<td>Special Packaging Instructions</td>
</tr>
<tr>
<td>0010</td>
<td>ISO Container Commercial Item Description (A-A-59272)</td>
</tr>
<tr>
<td>0011</td>
<td>LTAS Sticker Drawing</td>
</tr>
<tr>
<td>0012</td>
<td>ATPD 2352 Revision T</td>
</tr>
<tr>
<td>0013</td>
<td>Alternate Materials</td>
</tr>
<tr>
<td>0014</td>
<td>Underbody Armor Kit Installation Instructions</td>
</tr>
<tr>
<td>0015</td>
<td>TIR and FACAR Report Data</td>
</tr>
<tr>
<td>0016</td>
<td>Industry Past Performance Questionnaire</td>
</tr>
<tr>
<td>0017</td>
<td>Relevancy Matrix for Experience</td>
</tr>
<tr>
<td>0018</td>
<td>Pricing Attachment</td>
</tr>
<tr>
<td>0019</td>
<td>Drawing 12420325H</td>
</tr>
<tr>
<td>0020</td>
<td>Drawing 12505460D</td>
</tr>
</tbody>
</table>

*** END OF NARRATIVE J0001 ***

<table>
<thead>
<tr>
<th>Addenda</th>
<th>Title</th>
<th>Date</th>
<th>Number of Pages</th>
<th>Transmitted By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment 0001</td>
<td>TECHNICAL DATA PACKAGE (TDP)</td>
<td>14-JUL-2017</td>
<td></td>
<td>COURIER</td>
</tr>
</tbody>
</table>