

**STATEMENT OF WORK  
FOR  
FLARE, DECOY, MJU-38A/B**

1. **SCOPE:** This Statement of Work (SOW) is for the production, acceptance, and delivery of the Flare, Decoy, MJU-38A/B. The MJU-38A/B is a pyrotechnic device that is designed to protect aircraft from heat seeking missiles.

2. **APPLICABLE DOCUMENTS:**

2.1 **GOVERNMENT DOCUMENTS:**

30003-3905AS100 Rev. D	Automated Data List for Flare, Decoy, MJU-38A/B
OES-3039 Rev. D	Detail Specification for Flare, Decoy, MJU-32A/B and MJU-38A/B
Joint Security Classification Guide dated 21 June 2010	Expendable Airborne Infrared Countermeasures (IR Decoys/ Devices)
MIL-HDBK-1461 Rev. A	Department of Defense Handbook - Ammunition Manufacturers and Their Symbols
MIL-STD-3046	Department of Defense Interim Standard Practice: Configuration Management
MIL-STD-1168 Rev. B	Department of Defense Standard Practice Ammunition Lot Numbering and Ammunition Data Cards
MIL-STD-129 Rev. P, Change 4	Department of Defense Standard Practice Military Marking for Shipment and Storage
MIL-STD-1916	Department of Defense Test Method Standard - DoD Preferred Methods for Acceptance of Product
DoD 4140.65 M	Issue, Use, and Disposal of Wood Packaging Material (WPM)

Attachment (1)

## 2.2 NON-GOVERNMENT DOCUMENTS:

ANSI/NCSL Z540-1	Calibration Labs and Measuring and Test Equipment - General Requirements
ISO 9001:2008	Quality Management Systems - Requirements
ISO 10012-1	Measurement Management Systems - Requirements for Measurement Processes and Measuring Equipment
ISPM No. 15	International Standards for Phytosanitary Measures - Regulation of Wood Packaging Material in International Trade (2009)

### **3. PROGRAM MANAGEMENT:**

**3.1** The Contractor shall maintain required Systems Engineering and Program Management policies and procedures to accomplish the tasks identified herein. The Contractor shall plan, organize and manage the effort throughout the life of this contract. The Contractor shall maintain a record of program costs, performance and schedule to ensure requirements are being met, and to provide early detection of problems to resolve and reduce risk. The Contractor shall develop an Integrated Master Schedule (IMS) to establish the milestones to accomplish the contract delivery schedules.

**3.1.1 Status Reporting:** The Contractor Program Manager shall track, measure, and report program status using Contractor standard internal processes, metrics, and procedures. Status reports shall include reporting of Program Risks and Risk Management activities. Management Status Reports shall be provided monthly and include the information in the following sub-paragraphs:

**3.1.1.1 Integrated Master Schedule (IMS):** An IMS, to include critical path network, shall be developed and delivered by the Contractor and shall be agreed upon by the Government and the Contractor. The Contractor shall generate and maintain a milestone schedule, which shall be used to control the project and report status to the Government. CDRL A001 (Integrated Program Management Report (IPMR) - Integrated Master Schedule) applies.

**3.1.1.2 Financial Reporting:** The Contractor shall determine, document, and maintain the status of contract funds. The Contractor shall report monthly financial progress. The Contractor shall establish and maintain an integrated uniform funding database to support the collection and reporting of available and expended funds, performance, and related data. Status of contract funds should be provided as part of the Contractor's Progress, Status and Management Report. CDRL A002 (Contractor's Progress, Status and Management Report) applies.

**3.1.2 Meetings:** Contractor shall plan for a minimum of two (2) scheduled Program Management Reviews (PMR) per year.

**4. REQUIREMENTS:**

**4.1 ITEM IDENTIFICATION:** The MJU-38A/B is defined by ADL 30003-3905AS100 Revision D.

4.1.1 The Contractor shall use internal processes to manufacture the MJU-38A/B in accordance with ADL 30003-3905AS100 Revision D.

4.1.2 All MJU-38A/B First Article and production lots shall meet the Lot Acceptance Test requirements of OES-3039 Revision D.

**4.2 AMMUNITION DATA CARDS (ADCs):** Detailed requirements for the preparation of ADCs are contained in *Exhibit 1*, reference CDRL A003 (Ammunition Data Card - Ammunition and Explosive Technical Data).

**4.3 CONFIGURATION MANAGEMENT:** The Government shall be responsible for the Configuration Management of the MJU-38A/B.

**4.3.1 Engineering Change Proposals (ECPs) and Requests for Variance (RFVs):** Proposed changes or departures which include ECPs and RFVs in the configuration or configuration identification of an item shall be documented. A local form that documents proposed changes in the configuration or configuration identification of an item may be utilized. Form approval will be provided by the Government. All ECPs and RFVs shall be submitted for evaluation and approval/disapproval through the Procuring Contracting Officer (PCO).

4.3.1.1 Disposition of ECPs shall be in 45 calendar days.

4.3.1.2 Disposition of RFVs shall be in 30 calendar days.

4.3.2 Material Review Board authority shall be withheld. Any variance from the baseline configuration-controlled documentation shall be evaluated by the Government.

4.3.2.1 All ECPs affecting this item shall be documented in accordance with CDRL A004 (Engineering Change Proposal (ECP)).

4.3.2.2 All RFVs affecting this item shall be documented in accordance with CDRL A005 (Request for Variance (RFV)) and MIL-STD-3046. The Acquisition Engineer shall determine/verify the Classification of the Variance. The Classification of Characteristic is determined by the Drawing and the field on the RFV form is completed by the Contractor.

4.3.3 Rework and Repair: Rework and Repair are allowed during production. The Contractor shall conduct rework and repair in accordance with *Exhibit 2* requirements.

4.3.4 Quality Deficiency Reporting: All product quality deficiencies will be reported using the Product Data Reporting and Evaluation Program (PDREP). To gain access to PDREP, register at the following link:  
[www.nslcptsmh.csd.disa.mil](http://www.nslcptsmh.csd.disa.mil)

4.4 RESPONSIBILITY FOR INSPECTION: The Contractor is responsible for all receiving, in-process and final assembly inspections. All conformance inspections, with corresponding methodologies on all characteristics, shall be documented in accordance with CDRL A006 (Test Procedure - Production Acceptance Inspection and Test Procedures). Reporting of all inspections and tests shall be in accordance with CDRL A007 (Test/Inspection Reports - Production Acceptance Inspection and Test Reports).

4.4.1 Special Inspection Equipment: If the Contractor utilizes any Special Inspection Equipment (SIE) for any Minor, Major or Critical inspection points, the Contractor shall submit the designs for approval in accordance with CDRL A008 (Special Inspection Equipment (SIE) Drawings/Models and Associated Lists - Design Documentation (Minor Characteristics) and CDRL A009 (Special Inspection Equipment (SIE) Drawings/Models and Associated Lists - Design Documentation (Major/Critical Characteristics), along with the SIE Operating Instructions in accordance with CDRL A010 (Special Inspection Equipment Operating Instructions).

4.4.2 Acceptance Inspection Equipment (AIE): The Contractor shall provide all AIE.

4.4.2.1 Acquisition, maintenance, and disposition of AIE shall be in accordance with ANSI/NCSL Z540-1 or ISO 10012-1. AIE shall be used to assure conformance of the components and end items to contract requirements. AIE shall

include all types of inspection, measuring, and test equipment whether Government-furnished, Contractor-designed, or commercially-acquired, along with the necessary specifications, and the procedures for use.

**4.4.2.2** Contractor AIE designs, specifications, and procedures for Critical, Major, and Minor characteristics shall be submitted to the Government for review and approval in accordance with CDRL A008 (Special Inspection Equipment (SIE) Drawings/Models and Associated Lists - Design Documentation (Minor Characteristics), CDRL A009 (Special Inspection Equipment (SIE) Drawings/Models and Associated Lists - Design Documentation (Major/Critical Characteristics), and CDRL A010 (Special Inspection Equipment Operating Instructions). All Contractor AIE documentation requiring Government approval shall contain sufficient information to permit evaluation of the AIEs ability to test, verify or measure the characteristic or parameter with the required accuracy and precision. Contractor-designed AIE requiring Government approval shall be made either in accordance with the equipment drawings specified in the contract (Description/Specification Section), or in accordance with any other design documentation, provided that it is approved by the Government. The Government will approve the AIE documentation or provide requirements for approval within 30 calendar days of receipt. The Contractor shall be responsible for any delays resulting from late submission of AIE documentation to the Government for approval, and any delays resulting from the submission of inadequate or incomplete AIE documentation.

**4.4.2.3** The Contractor must ensure that all AIE is approved and available for use prior to First Article (FA) submission (if FA is required) or prior to initiation of production under this contract.

**4.4.2.4** The Government reserves the right to disapprove at any time during the performance of this contract, use of any AIE not meeting the requirements of the approved design, specification, or procedure documentation.

**4.4.3 First Article:** The Contractor shall produce a First Article Sample for the MJU-38A/B in accordance with OES-3039 Revision D. The First Article sample shall be as specified and shall be examined and tested in accordance with the contract, the item specification(s), and drawing(s).

**4.4.3.1 First Article Sample:** There are two types of First Article Samples: 1) Initial First Article Sample, and 2) Subsequent First Article Sample.

**4.4.3.1.1 Initial First Article Sample:** This is the First Article required at the start of a contract and is typically a contract deliverable. The initial First Article Sample shall be submitted to the Government 120 calendar days after contract award.

**4.4.3.1.2 Subsequent First Article Sample:** This is the First Article required due to failing an initial First Article or if a Class II ECP change is made to the technical data, whenever there is a lapse in production for a period in excess of 45 calendar days, or whenever a change occurs in the place of performance, manufacturing process, material used, drawing, specification or source supply.

**4.4.3.1.2.1** When any of the conditions in paragraph 4.4.3.1.2 occur, the Contractor shall notify the PCO, by memorandum, so that a determination can be made concerning the need for an additional First Article Sample or portion thereof, and instructions provided concerning the submission, inspection and notification of results. The PCO will respond to the additional First Article request within 14 calendar days.

**4.4.3.1.2.2** Subsequent First Articles, due to Contractor control, are subject to the Contractor compensating the Government upon evaluation by the PCO.

**4.4.3.1.3** The Contractor shall provide to the PCO at least 14 calendar days advance notice of the scheduled date for a First Article Sample build.

**4.4.3.1.4** The First Article Sample shall be representative of items to be manufactured using the same processes and procedures as production. All parts and materials, including packaging and packing, shall be obtained from the same source of supply as will be used during regular production.

**4.4.3.2 First Article Inspections:** The Contractor shall perform 100% receiving, in-process and final assembly inspections on the First Article Sample.

4.4.3.2.1 Results of Contractor inspections (including Supplier's and Vendor's inspection records when applicable) shall be verified by the Quality Assurance Representative (QAR) and one copy of the report of findings bearing the QAR endorsement shall be forwarded with the First Article Sample.

4.4.3.2.2 Upon delivery to the testing activity, the First Article may be subjected to inspection for all contract, drawing, and specification requirements.

4.4.3.3 **First Article Acceptance Testing:** First Article Acceptance Testing shall be performed at the following Government facility after initial inspection performed by the QAR. The Contractor shall palletize the FAT samples and ship to the following location:

NSWC Crane  
Attn: Troy Auberry (Code JXRP) (812) 854-5590  
and/or Terry Chastain (Code WXP) (812) 854-6460,  
Building 2390  
300 Highway 361  
Crane, IN 47522-5000

4.4.3.3.1 For all shipments to NSWC Crane, the shipment must be accompanied by a completed DD Form 250 or Wide Area Work Flow (WAWF) Receiving Report with all applicable information, including Contract number, nomenclature, NSN, DODIC, lot number, and quantity.

4.4.3.3.1.1 For MJU-38A/B Infrared (IR) test samples, the WAWF Receiving Report shall have the following entered into the STOCK NUMBER and STOCK TYPE entries: Stock Number - 1370LL0005413, Stock Type - A3.

4.4.3.4 **First Article Acceptance:** The PCO shall, by written notice to the Contractor within **60 calendar days** or as otherwise specified by the PCO after receipt of the sample units by the testing activity, approve, disapprove, or conditionally approve the First Article sample.

4.4.3.4.1 Government QAR will perform final acceptance after receiving the Acceptance Letter from Mechanicsburg PCO.

4.4.3.5 Rejected First Articles or portions thereof not destroyed during inspection and testing will be held at the First Article test site for a period of 60 calendar days following the date of notification of rejection, pending receipt of instructions from the Contractor for the disposition of the rejected material. The Contractor agrees that failure to furnish such instructions within said 60 calendar day period shall constitute abandonment of said material by the Contractor and shall confer upon the PCO the right to destroy or otherwise dispose of the rejected items without liability to the Contractor by reason of such destruction or disposition.

4.4.3.6 The Government reserves the right to waive the First Article requirements.

4.4.4 Production Lot Acceptance Testing (LAT): After initial inspection performed by the QAR, the Contractor shall perform all Plan A and Plan B Lot Acceptance Testing in accordance with OES-3039 Revision D, except for the IR Output in Airstream Test and Flight Function Test, which shall be performed by the Government at the facilities specified in 4.4.4.1 and 4.4.4.2.

4.4.4.1 Infrared (IR) Output in Airstream Test: After initial inspection performed by the QAR, and for every production lot, the Contractor shall palletize the IR Output in Airstream Test samples, and ship to the following location for the IR Output in Airstream Test:

NSWC Crane  
Attn: Troy Auberry (Code JXRP) (812) 854-5590  
and/or Terry Chastain (Code WXRP) (812) 854-6460,  
Building 2390  
300 Highway 361  
Crane, IN 47522-5000

4.4.4.1.1 Prior to the first production lot IR Output in Airstream Test, the Contractor shall provide 2 to 4 full batches of IR test samples at no cost to the Government. There shall be a minimum of 240 total IR test samples provided. The 240 minimum samples shall be represented by a lot number with the letter "E" placed between the interfix and sequence numbers, and shipped to the same address as paragraph 4.4.4.1. These samples shall be used as a baseline for all subsequent IR Output in Airstream Tests during the Contract. Before every

subsequent IR Output in Airstream Test, approximately three of these baseline samples will be used as set-up units.

**4.4.4.1.2** For all shipments to NSWC Crane, the shipment must be accompanied by a completed DD Form 250 or Wide Area Work Flow (WAWF) Receiving Report with all applicable information, including Contract number, nomenclature, NSN, DODIC, lot number, and quantity.

**4.4.4.1.2.1** For MJU-38A/B IR test samples, the WAWF Receiving Report shall have the following entered into the STOCK NUMBER and STOCK TYPE entries: Stock Number - 1370LL0005413, Stock Type - A3.

**4.4.4.2 Flight Function Test:** After initial inspection performed by the QAR, and for every Plan A production lot, the Contractor shall palletize the Flight Function Test samples, and ship to the following location for the Flight Function Test:

NMC DET CHINA LAKE  
Attn: Rod Oberlander  
Building 31060  
1 Administration Circle  
China Lake, CA 93555-6001

**4.4.4.3** The first LAT sample submission is due 30 calendar days after approval of FAT.

**4.4.4.4** Prior to selection of the LAT sample units, the lot shall have been inspected to and meet all other requirements of the contract. A sample shall not be submitted from a lot rejected for nonconformance to the detailed requirements of the specification(s) and drawing(s) unless authorized by the PCO.

**4.4.4.5** The LAT sample units shall be randomly selected from the entire lot by, or in the presence of, the Government QAR.

**4.4.4.6** Unless otherwise specified, the LAT sample units are considered to be destructively tested and are in addition to the units deliverable under the contract.

4.4.4.7 The PCO, by written notice to the Contractor within 45 calendar days (after receipt of the IR Output test samples and/or Flight Function test samples by the testing activity), shall approve, disapprove, or conditionally approve the IR Output and/or Flight Function test portions of the lot acceptance sample.

4.4.4.8 Within 7 calendar days of the completion of all Lot Acceptance Testing, the Contractor shall create and submit a Lot Acceptance Test Report through the Government QAR for signature. Once the Government QAR has signed the LAT Report, the Contractor shall send it to the PCO. The LAT Report shall include all results of Contractor and Government testing, in accordance with CDRL A007 (Test/Inspection Reports - Production Acceptance Inspection and Test Reports). The LAT Report shall be reviewed and approved by the PCO before the lot can be accepted. Notice of approval or disapproval of the LAT Report shall be made to the Contractor by official correspondence within 7 calendar days after the PCO receives the LAT Report.

4.4.4.8.1 Within 150 calendar days of the contract award, the Contractor shall submit a sample LAT Report format to the PCO for approval. Notice of approval or disapproval of the sample LAT Report format shall be made to the Contractor by official correspondence within 14 calendar days after the PCO receives the sample LAT Report format.

4.4.4.9 **Final Acceptance:** Acceptance, shipment, and payment shall not be accomplished until the lot has been tested, the required LAT Report approved, and the lot has been released for service use by the Acceptance Letter from the PCO. The final acceptance of the LAT will be performed by the Government QAR at the Contractor facility after receiving the Acceptance Letter from the PCO.

4.4.4.10 Upon receipt of the written approval accepting a production lot, the Contractor shall ship the lot as soon as possible, and no later than 15 calendar days after receipt of the Acceptance Letter.

4.4.4.11 If the production lot LAT sample fails to meet applicable requirements, the Contractor shall notify the PCO immediately. The Contractor may be required, at the option of the PCO, to submit an additional production lot test sample

for test at Contractor's expense. When notified by the PCO to submit an additional production lot test sample, the Contractor shall make any necessary changes, modifications, or repairs and randomly select another sample for testing. The additional test sample shall be furnished under the terms and conditions and within the time specified in the notification.

4.4.4.12 Unless authorized by the PCO, the lot from which the samples are drawn shall not be shipped until the tested units have satisfactorily met the established requirements, and the lot has been formally accepted by the Government QAR.

5. QUALITY ASSURANCE PROVISIONS:

5.1 QUALITY MANAGEMENT SYSTEM: The Contractor shall have a Quality Management Plan and submit for review in accordance with CDRL A011 (Quality Program Plan).

5.1.1 The Quality Management Plan shall comply with ISO 9001-2008, including the design/development requirements. Should it be necessary to exclude the design/development requirements of the standard, the Contractor shall clearly state the exclusion in the correspondence that forwards the Quality Management Plan to the PCO.

5.1.1.1 In the rare event that the Contractor has not implemented the ISO 9001-2008 standard, a request to use an alternate program/system, along with all program/system supporting documentation, shall be submitted to the Government for review and disposition.

5.1.2 The Contractor shall:

5.1.2.1 Provide a copy of the Quality Management Plan to the Government QAR at the Contractor facility for review prior to submission to the PCO.

5.1.2.2 Submit initial Quality Management Plan no later than 60 calendar days prior to the start of production. Copies of the documented program are to be provided for review and approval to the Procuring Office with the review made by JXRT Procurement Quality Manager (PQM), and the Acquisition Engineer.

5.1.2.3 Submit revisions when developed.

**5.2 STATISTICAL PROCESS CONTROL (SPC):** The Contractor shall implement SPC in accordance with a Government-accepted SPC Program Plan. NSWC Crane Munitions Acquisition Branch PQM and Acquisition Engineer shall review any exceptions to this policy with approval from PMA272.

5.2.1 The SPC General and Detailed Plans shall be reviewed by NSWC Crane Munitions Branch PQM and structured in accordance with **CDRL A012 (Management Plan - SPC)**, applicable for both the General and Detailed Plans.

5.2.1.1 Specific Requirements Pertaining to Plan Submittal. In accordance with **CDRL A012 (Management Plan - SPC)**, the supplemental information in *Exhibit 3* for the General SPC Plan and *Exhibit 4* for the Detailed SPC Plan shall be considered and used when developing the two SPC Plans.

5.2.2 The Contractor shall review all process and operation parameters for possible application of SPC techniques. This review shall include processes and operations under the control of the Prime Contractor and those under the control of Sub-Contractor (Vendor) facilities. A written justification shall be included in the Detailed SPC Plan for each process and operation parameter that controls or influences characteristics identified as Critical or Major, which have been deemed impractical for the application of SPC techniques.

5.2.3 The Contractor may request, in writing, through the Administrative Contracting Officer (ACO) and PCO to the PQM, and the Acquisition Engineer that acceptance inspection or testing performed in accordance with contract requirements be reduced or eliminated when the process or operation parameter under control has demonstrated both stability and capability.

5.2.3.1 *Exhibit 5* provides the details for reduction/elimination of acceptance inspection utilizing SPC data.

**5.3 SUPPLEMENTARY QUALITY ASSURANCE PROVISIONS:** *Exhibit 6* provides additional Quality Assurance duties the Contractor shall be responsible for.

5.4 The Government reserves the right to conduct Physical Configuration Audits, SPC, and/or quality audits at the Contractor facility to assure the quality of products and services meets contractual requirements. The scope and schedule of the audit will be by direction of the PCO or designated representative. The PCO or designated representative will coordinate with the Contractor to assure resources required for performance of the audit are available. The Contractor will be notified 30 calendar days in advance of the scheduled audit.

5.5 **PRE-AWARD SURVEY AND POST-AWARD SURVEY:** Pre-award and post-award surveys are required but may be waived with written concurrence of the Acquisition Engineer, the PQM, and approval by PMA272.

5.6 The Acquisition Engineer, PQM, and PMA272 Expendable Assistant Program Management Systems Engineer (APMSE) shall be invited to quality, technically related surveys/assessment/reviews and conferences resulting from procurement/production of Department of the Navy (DON) cognizant items by the Contractor facility.

5.7 **CRITICAL CHARACTERISTICS PLANNING:** The Contractor shall meet the Critical Characteristics Planning requirements located within **paragraph 6 of Exhibit 6**. The plan shall include critical defect reporting in accordance with CDRL A013 (**Critical Safety Item, Characteristic and Critical Defect Report**) and Failure Analysis in accordance with CDRL A014 (**Failure Analysis and Corrective Action Report**).

6. **PREPARATION FOR DELIVERY:**

6.1 **BAR CODING:** Ammunition bar code markings are required in accordance with MIL-STD-129 Revision P, Change 4. Bar coding shall be applied to outer shipping containers and to unit loads. Plastic laminated labels are required.

6.1.1 If wood containers are used, labels shall be affixed by means of stapling. The staples must not be located within the bar code or the quiet zone of the label. It is permissible to attach the pressure sensitive label to a piece of water-resistant card stock slightly larger than the label and staple the card stock to the wood container by means of heavy-duty staples.

6.2 Wood packaging material used in the palletizing of the MJU-38A/B Decoy Flares shall be heat-treated and marked in accordance with DoD 4140.65 M, Issue, Use, and Disposal of Wood Packaging Material (WPM), as well as the International Standards for Phytosanitary Measures (ISPM) No. 15 - Regulation of Wood Packaging Material in International Trade (2009).

6.3 **LOT NUMBERING AND PACKAGING:** All product lot numbering and packaging shall be in accordance with the requirements of MIL-STD-1168 Revision B. No more than one lot shall be packaged in an outer shipping container.

7. **SECURITY:** Performance on this contract will require the Contractor to have access to classified information up to, and including, Secret level. Due to changing and new emerging threats, it may be necessary to initiate product improvements to existing countermeasures increasing effectiveness. In order to remain diligent in these efforts, it is necessary for the Contractor to receive periodic threat assessments from PEO Intel Personnel at a Secret level. Reference Joint Security Classification Guide "Expendable Airborne Infrared Countermeasures (IR Decoys/Devices)", dated 21 June 2010.

8. **GOVERNMENT FURNISHED MATERIAL (GFM) AND GOVERNMENT FURNISHED EQUIPMENT (GFE):** The Government shall provide the following GFM and GFE:

8.1 **GFM:**

8.1.1 MK 3 Mod 0 Pallets, Total Quantity = total deliverable quantity/1,440.

8.1.2 CCU-136A/A Impulse Cartridges

8.1.2.1 CCU-136A/A Impulse Cartridges (standard) for in-process testing.

8.1.2.2 CCU-136A/A Impulse Cartridges (Stainless Steel) for the Static Function portion of Lot Acceptance Testing only.

8.2 **GFE:** Dispenser Set AN/ALE-47 Dispenser System

8.2.1 Dispenser, Countermeasures Chaff-Flare,  
D-67/ALE 47V (NSN 5999-01-502-7985 or NSN  
5865-01-502-7985)  
QTY=3

8.2.2 Block, Countermeasures Chaff-Flare  
(NSN 5999-01-502-8030)  
QTY=4

8.2.3 Breechplate, Countermeasures Chaff-Flare  
(NSN 5865-01-436-6123)  
QTY=5

9. **GOVERNMENT RESTRICTIONS:** The Contractor shall conform to the following restrictions:

9.1 **Magnesium:** The raw magnesium will be procured and processed into magnesium powder by sources within the United States.

9.2 **Countermeasure Flare Formulation:** All countermeasure grain processes shall occur within the United States.

9.3 **Countermeasure Flare Processes:** All countermeasure flare processes shall occur within the United States.

**EXHIBIT 1**  
**Ammunition Data Card (ADC) Requirements**

1. Ammunition Data Cards (ADCs). Contract Data Requirements List (CDRL) A003 (Ammunition Data Card - Ammunition and Explosive Technical Data) is applicable. Detailed requirements for the preparation of ADCs are contained in MIL-STD-1168B (DI-MISC-80043B) and the Worldwide Ammunition-data Repository Program (WARP) On-Line User's Manual. Detailed requirements for obtaining and using a manufacturer's identification symbol, which is an integral component of the ammunition lot number, can be found in MIL-HDBK-1461.

a. The Contractor shall develop and submit ADCs in accordance with the requirements of this clause, MIL-STD-1168B, and the WARP On-Line User's Manual.

b. A Contractor shall prepare an ADC for each lot of the item(s) being procured under this contract on all lots produced regardless of whether or not the lots are accepted or rejected by the Government.

c. Unless otherwise authorized by the Procuring Contracting Officer, the Contractor shall include on the ADC representing the deliverable item, as a minimum: all assemblies, subassemblies, components, explosives, and propellants.

d. The Contractor shall state the Automated Data List (ADL) number (with revision) in the Remarks section of the ADC.

e. When required by the TDP, all component lot numbers will be in accordance with MIL-STD-1168B lot number convention. When not required by TDP, component lot numbers may be constructed through producer lot number convention.

f. All component RFDs/ECPS shall be listed on the ADC for the deliverable item, as well as on the component ADC. The WARP User's Manual provides information on the level of detail required.

g. A sample ADC shall be developed and submitted via WARP 30 calendar days prior to FAT, or 30 calendar days prior to production, in the event that a FAT is not required. The WARP

ADC program will not allow the submission of additional ADCs until such time that the sample ADC has been approved in WARP.

h. The Contractor shall document the configuration of each production lot on an Ammunition Data Card (ADC). The top level drawing and revision shall be documented on the ADC. The following is a list of Major Components that shall be documented with drawing and revision on the ADC:

- Case
- Igniter Top
- Igniter Bottom
- Slider
- Cartridge Retainer
- End Cap
- Ignition Composition Batch
- Grain Batch
- Shipping & Storage Container, M548

**EXHIBIT 2**  
**Rework and Repair Requirements**

1. Rework and Repair are defined as follows:

a. Rework - The reprocessing of nonconforming material to make it conform completely to the drawings, specification or Contract requirements.

b. Repair - The reprocessing of nonconforming material in accordance with approved written procedures and operations to reduce, but not completely eliminate, the nonconformance. The purpose of repair is to bring nonconforming material into a usable condition. Repair is distinguished from rework in that the item after repair still does not completely conform to all of the applicable drawings, specifications or contract requirements.

c. Rework procedures along with the associated inspection procedures shall be documented by the Contractor and submitted to the QAR for evaluation and approval/disapproval prior to implementation.

d. Repair procedures shall be documented by the Contractor and submitted on a RFD, DD Form 1694, to the PCO for review and written approval prior to implementation.

e. Whenever the Contractor submits a repair or rework procedure for review and approval, the submission shall also include a description of the cause for the nonconformances and a description of the action taken or to be taken to prevent recurrence.

f. The rework or repair procedure shall also contain a provision for reinspection which will take precedence over the technical data requirements and shall, in addition, provide the assurance that the reworked or repaired items have met reprocessing requirements.

### EXHIBIT 3

## General Statistical Process Control (SPC) Plan (Management Plan) Information

1. This exhibit shall define management's SPC responsibilities and involvement and shall include management's commitment to continuous process improvement. The plan shall embrace a total commitment to quality and shall be capable of standing on its own merit. Key points to look for during the review of a General SPC Plan (Management Plan) include:

a. Policy/Scope: Describe the Contractor's policy for applying SPC, including goals and management commitment to SPC.

b. Applicable Documents: List documents that are the basis for the Contractor's SPC program (i.e., ANSI standard, textbooks, Government documents).

c. SPC Management Structure: Define the SPC management structure within the organization. Identify and include interrelationships of all departments involved in SPC (i.e., Production, Quality, Engineering, Purchasing, etc.). Identify by job title or position, all key personnel within departments involved in the application of SPC. Describe which functions key personnel perform and when these functions are performed (i.e., include personnel responsible for performing inspections/audits, charting and interpreting data; personnel responsible for determining, initiating and implementing corrective action upon detecting assignable causes, etc.)

d. SPC Training: Identify by job title or position the primary individual responsible for overseeing that SPC training is accomplished. Describe the qualification program required and in use for all personnel utilizing SPC techniques, including the qualification of trainers. Identify who is to be trained and the type, extent and length of such training (i.e., on-the-job, classroom, etc.). Identify when refresher training is required and how personnel using SPC techniques are monitored.

e. Manufacturing Controls: Identify the criteria for performing SPC gage capability studies and describe how and when these studies are applied. Repeatability and accuracy of gages should be addressed.

f. Determination of SPC Use: Describe how the process/operation parameters are determined appropriate for SPC application and explain what actions are taken if SPC is not deemed appropriate for Critical and Major process/operation parameters (i.e., Pareto analysis, analysis of characteristics with tight tolerances, etc.).

g. Process Stability and Capability: Identify the criteria for performing process capability studies and describe how and when these studies are applied. Describe how the process capability index is calculated and include the frequency of these calculations. Describe what actions are taken as a result of each process capability study. Describe the Contractor's methodologies when process capability is for variable and attribute data. To determine a capable process, the process/operation parameters shall meet the following requirements:

(1) Variable data. Cp shall be determined. Cpk shall be greater than or equal to 1.33. For critical parameters/characteristics, the Cpk shall be greater than or equal to 2.0.

(2) Attribute data. Cp/Cpk shall be the percent beyond the upper/lower specification limit less than or equal to .003 percent (Cpk = 1.33).

(3) Describe what actions will be taken if process/operation is sub-marginal or marginal. (Cpk less than 1.33 or 2.0 for criticals) or grand average fraction defective is greater than .003 percent)).

(4) Include analysis of statistical distributions and define all formulas and symbology utilized.

h. Control Chart Policy:

(1) Type of charts to be used (i.e., X-Bar/R, X-Bar/S, etc.) and rationale for use, the criteria for selection of sample size, frequency of sampling and rational subgroups.

(2) Procedures for establishing and updating control limits, including frequency of adjustments.

(3) Criteria for determining out-of-control conditions (i.e., trends, points beyond control limits, etc.) and the corrective action taken, to include failure analysis when the process is unstable or when nonconforming product has resulted from unstable processes. Illustrate out-of-control tests.

(4) Describe the method of recording pertinent facts on control charts such as changes in raw material, machines, manufacturing methods and environment, and corrective actions taken and describe how control charts are traceable to the product.

i. SubContractor (Vendor) Purchase Controls: Identify whether Contractors/SubContractors are required to utilize SPC and describe the extent the Contractor's/SubContractor's policies and procedures are consistent with in-house procedures of the Prime Contractor. Describe the following: methods utilized to determine that Contractors have adequate controls to assure defective product is not produced and delivered; the system utilized to audit Contractors, what will be audited and how often; what action will be taken when out-of-control conditions exist at SubContractor facilities.

j. SPC Audit System: At a minimum, the Contractor's SPC Audit System shall consist of auditing compliance with the planned arrangements specified in the General SPC Plan and Detailed SPC Plan followed by a review and analysis of the outcome to include implementation of necessary corrective action.

k. SPC Records: Identify various records to be used in support of SPC and describe its use (i.e., types of control charts, training records for employees using SPC, etc.). Identify retention periods.

#### EXHIBIT 4

### Detailed Statistical Process Control (SPC) Plan (Item Specific) Information

1. This section shall detail specific manufacturing process/operation parameters under control. Key points to look for during the review of a Detailed SPC Plan (Item Specific) include:

a. Control of Process/Operation Parameters or Characteristics. Identify the following for each process/operation by name or characteristic under control:

(1) Identify process/operation by name or characteristic and provide rationale for selection and justification for nonselection if the parameter or characteristic is identified as Critical and/or Major.

(2) Describe how the characteristic is produced, the chain of events, type and number of machines involved, location of manufacturing facility, tolerances maintained, etc.

(3) Production and inspection machinery used. Include the production rate, number of shifts and length of shifts plus whether inspection is fully or semi-automatic or manual. If manual, identify the type of gages in use.

(4) Identify the type of charts to be maintained and whether the process/operation is performed in-house or subcontracted out. Identify facility/vendor where process/operation parameters are targeted for SPC.

b. Reduction or Elimination of Inspection/Test: The PCO will accept submissions of requests for reduction or elimination of final acceptance inspection/testing when the requirements of the SPC contract clause and this SOW are met. Each request shall contain and/or address the following: control charts documenting twenty (20) consecutive production shifts or more for the same process/operation parameter under control; type of control chart utilized; control chart limits and process average or grand average fraction defective (as applicable); definition of out-of-control condition and corrective actions taken during out-of-control conditions; specification and part number.

**EXHIBIT 5**  
**Statistical Process Control (SPC) Data Reduction/Elimination**  
**Requirements**

1. The Government will not consider requests for reduction or elimination of 100% acceptance inspection and testing of parameters or characteristics identified as Critical in specifications, drawings, or other documentation to the contract if any one of the following conditions exist:

a. The existing process currently utilizes a fully automated, cost effective and sufficiently reliable method of 100% acceptance inspection or testing for an attribute-type Critical parameter or characteristic.

b. The Contractor utilizes attribute SPC control chart methods for the Critical parameter or characteristic.

c. The Critical parameter or characteristic is a first order, single point safety failure mode (nonconformance of the Critical parameter or characteristic in and of itself would cause a catastrophic failure).

2. The Government will only consider reduction or elimination of the 100% acceptance inspection or test requirement for other Critical parameters or characteristics if either of the following conditions is met:

a. The process is in a state of statistical control utilizing variable control chart methods for the Critical parameter or characteristic under control and the process performance index (Cpk) is at least 2.0. The Contractor shall maintain objective quality evidence through periodic audits that the Cpk is being maintained for each production delivery.

b. The Critical parameter or characteristic is conclusively shown to be completely controlled by one or more process or operation parameters earlier in the process, and those parameters are in a state of statistical control utilizing variable data, and the product of the probability of the conformance for each earlier parameter associated to the Critical characteristic is better than or equal to a value equivalent to that provided by a Cpk of at least 2.0. The

Contractor shall maintain objective quality evidence through periodic audits that the Cpk(s) are being maintained for each production delivery.

3. For characteristics other than Critical, requests for reduction or elimination of acceptance inspection and testing shall be considered when the Cpk is greater than or equal to a Cpk of 1.33 for variables data. Requests shall be considered for attributes data when the percent beyond the specification limits is less than or equal to .003 (Cpk = 1.33).

4. Process or operation parameters under reduced or eliminated inspection or testing that undergo a break in production less than six months in length, may continue to operate under reduced or eliminated inspection or testing provided there has been no degradation below a Cpk of 1.33 (2.0 for Criticals). Any break in production greater than six months shall require resubmission of the request for reduction or elimination of inspection or testing.

5. Immediately following a change to a process or operation parameter under reduced or eliminated inspection, the Process Capability (Cp) or Cpk shall be recalculated and documented for variable data; the grand average fraction defective shall be recalculated for attribute data. If any of these values have deteriorated, immediate notification shall be made to the Government along with the associated documentation. Return to original inspection and test requirements may be imposed.

6. The Government reserves the right to withdraw authorization to reduce or eliminate final acceptance inspection or testing and direct the Contractor to return to original contract inspection or test procedures at any indication of loss of process control or deterioration of quality.

## EXHIBIT 6

### Supplementary Quality Assurance (QA) Provisions

1. Introduction. The following define Supplementary Quality Assurance Provisions to this contract and become an integral part thereof. These provisions define additional requirements of the Contractor in the performance of Quality Assurance (QA) duties. In the event of any conflicting requirements, these provisions shall have precedence.

2. General Provisions.

a. Acceptability of a lot or batch of material will be determined by the use of sampling plans contained herein, Statistical Process Control (SPC) and/or 100 percent inspection as specified in the Contractor's Government-approved quality or inspection plans. Final acceptance by Government inspection and/or testing may be required by the item specification or drawing.

b. The assignment of a sampling plan in no way alleviates the responsibility of the Contractor to furnish a product meeting all the requirements of the documentation. Material not meeting all the requirements of the applicable drawings and specifications shall be considered defective whether or not the characteristic is classified. The Contractor may not knowingly submit any non-conforming product to the Government for product acceptance.

c. Inspection and test records shall, as a minimum, indicate the nature of the observations, number of observations made, and the number and type of deficiencies found. Data included in inspection and test records shall be complete and accurate and shall be used for trend analysis and to assess corrective action effectiveness.

d. The Contractor's gages and measuring and testing devices shall be made available for use by the Government, when required, to determine conformance with contract requirements. If conditions warrant, Contractor personnel shall be made available for operation of such devices and for verification of accuracy and condition.

e. The Contractor's software quality program shall be an integral part of the overall QA program. Software quality program controls shall be applicable to all project software that is developed, maintained, or modified within the following categories:

(1) All deliverable software.

(2) All deliverable software that is included as part of deliverable hardware or firmware.

(3) Non-deliverable software (commercially available or user-developed) used for development, fabrication, testing, or acceptance of deliverable software or hardware (includes automated fabrication, test, and inspection/acceptance equipment software and software design, test, and inspection tools).

(4) Commercially available, reusable, or Government software designated as part of a deliverable item.

f. Government Property.

(1) Government-Furnished Material (GFM). When material is furnished by the Government, the Contractor's procedures shall include, at a minimum, the following:

(a) Examination upon receipt, consistent with practicability to detect damage in transit.

(b) Inspection for completeness and proper type.

(c) Periodic inspection and precautions to assure adequate storage conditions and to guard against damage from handling and deterioration during storage.

(d) Functional testing, either prior to or after installation, or both, as required by contract to determine satisfactory operation.

(e) Identification and protection from improper use or disposition.

(f) Verification of quantity.

(2) Damaged GFM. The Contractor shall report to the Government representative any GFM found damaged, malfunctioning, or otherwise unsuitable for use. In the event of damage or malfunctioning during or after installation, the Contractor shall determine and record probable cause and necessity for withholding material from use.

(3) Bailed Property. The Contractor shall, as required by the terms of the Bailment Agreement, establish procedures for the adequate storage, maintenance and inspection of bailed Government property. Records of all inspections and maintenance performed on bailed property shall be maintained. These procedures and records shall be subject to review by the Government representative.

g. Criteria established by MIL-STD-1916 (Department of Defense Test Method Standard, DOD Preferred Methods for Acceptance of Product) shall be used by the Contractor to conduct (nondestructive) acceptance inspection. Use of other (nondestructive) Acceptance Inspection Plans requires prior Government approval.

h. Critical characteristics that are to be verified by nondestructive testing or inspection shall be inspected 100 percent regardless of any provisions or allowance to the contrary as may be contained, included or cited in the drawings or specifications. Reduced levels for nondestructive testing or inspection of Critical characteristics are not allowed.

3. Applicable Definitions. QA terms applied to the material to be delivered under this contract, unless otherwise specified, are defined in ANSI/ISO/ASQC 9001:2008. However, definitions set forth in drawings and specifications of the contract shall take precedence over the definitions contained in ANSI/ISO/ASQC 9001:2008 or in the provisions, to the extent of the conflict. The Procurement Contracting Officer (PCO) shall be advised of any such uncovered conflict.

a. Classification of Characteristics. A specific attribute, measurement, or functional feature identified in the drawings or specifications as a requirement and classified in accordance with the effect of conformance or nonconformance with the requirement as "Critical," "Major," or "Minor."

b. Inspection by Characteristics. The application of acceptance/rejection criteria to each individual characteristic of a drawing or specification or to individually specified characteristics.

c. Acceptance Inspection/Process Control. Specified operations that must be performed by the Contractor to assure that the lot of items (or item) conforms to the requirements of drawings and specifications. These operations (examinations, measurements and tests) shall be conducted prior to the submission of the item (or lot of items) to the cognizant Government representative for acceptance by the Government.

d. Cognizant Government Representative. The designated Government representative specified in the contract. In addition to the definitions of Purchaser and Customer found in the respective ANSI/ISO/ASQC standards, when used in the Quality Systems definitions of U.S. Government contracts, the term "Government" shall refer to the body of the Government Agency administering the particular contract involved, or the authorized representative of that Government body.

e. Contractor. The organization that provides a product or a service to the Government. When used in the Quality Systems definitions of U.S. Government contracts, the terms "Contractor" and "Supplier" are synonymous.

f. Testing. That element of inspection by technical means that determines the properties or elements, including functional operation of elements and supplies or those components, by the application of established scientific principles and procedures.

4. MIL-STD-1916 (1 Apr 1996) shall be used by the Contractor for (nondestructive) acceptance inspection. Inspection shall be by characteristic. Acceptance criteria shall be accept on zero defects and reject on one or more defects for all verification levels. If sample size exceeds lot size, perform one hundred percent inspection.

5. Unless specified otherwise on drawings or specifications, Verification Level IV shall be used for "Major" characteristics and Verification Level II for "Minor" characteristics. Characteristics not defined as "Critical" or "Major" are defined as "Minor."

6. Critical Characteristics Planning:

a. The Contractor's processes shall be designed with the objective of preventing the creation or occurrence of nonconforming critical characteristics. The Contractor shall establish, document and maintain specific procedures, work and handling instructions, processes and controls relating to any critical characteristics.

b. The Contractor shall assure its Critical processes are robust in design, capable and under control, with the objective of not generating any critical nonconformances. Robust processes shall be designed to yield less than one critical nonconformance in one million at a confidence level of 95%.

c. An inspection and verification system shall be employed that will verify the robustness of all critical processes. Use of automated inspection equipment to accomplish verification of product quality is encouraged. Use of mistake proofing (fail-safe) design methods/techniques within material handling and inspection systems is encouraged.

d. In the event that a Critical nonconformance is discovered anywhere within the production process, the Contractor, as part of their quality system, shall have procedures in place to ensure:

(1) The nonconformance is positively identified and segregated so that there is no possibility of the item inadvertently re-entering the production process. This control shall be accomplished without affecting or impairing subsequent defect analysis.

(2) The operation that produced the defective component or assembly and any other operations incorporating that component or assembly are **immediately stopped**.

(3) The Government is **immediately notified** of the Critical nonconformance (by telephone and/or electronic mail) per CDRL A013 (Critical Safety Item, Characteristic and Critical Defect Report).

(4) Any suspect material (material in process that may contain the same defect) is identified, segregated and suspended from any further processing.

(5) An investigation is conducted to determine the cause of the deficiency and required corrective actions. A report of this investigation shall be submitted to the Government per CDRL A014 (**Failure Analysis and Correction Action Report**). The use of the DID report shall not delay notification to the Government.

(6) A request to restart manufacturing or to use any suspect material associated with the Critical nonconformance is submitted to the Government by official correspondence through the PCO. Restart of production shall not occur until the investigations are complete or upon authorization from the PCO. All objective evidence of the investigations to date shall be available for review, by the Government, at the time of restart. Suspect material found to be nonconforming shall not be used without Government approval.

e. The Contractor may develop alternative plans and provisions relative to Critical characteristics. The provisions shall be submitted to the Government for advance approval and shall address the following:

(1) Complete explanation of potential failure mode(s) together with supporting historical and statistical data.

(2) Pre-established Plan of Action to be taken when a Critical nonconformance occurs and a description of controls to ensure there is no possibility of the nonconforming item inadvertently entering the production process.

(3) Means of tracking nonconformance rate, investigative results and corrective actions taken.

(4) Method to immediately verify that a produced Critical nonconformance is consistent with the identified failure mode(s) and does not exceed the historical nonconformance rate.