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Supplier Quality Assurance Manual

Platforms & Services
Combat Mission Systems

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Rev	Date	Change Description	Approved By	Change Request #
00	11/27/2012	New Document Release		BPMS-00647
01	09/03/2013	Addition of amendment A into SQAM document. CDR updates	Tom Frazho	BPMS-01446
02	01/14/2014	Change to 8.11; change to 6.1; change to 6.2	Tom Frazho	BPMS-01593
03	02/19/2015	Changes/additions/deletions made to the following sections: 2.0, 3.1, 3.2, 3.3, 3.4, 3.5, 4.0, 5.1, 5.2, 6.1, 6.2, 6.5, 7.1.1, 7.1.2, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.8, 8.10, 9.1, 9.3, 9.4	Tom Frazho	BPMS-02169
04	05/11/2015	Added 6.6 Traceability of Specialty Metals	Tom Frazho	BPMS-02269
05	09/01/2015	Added 7.1.2.1, revised 9.4, revised 7.2	Tom Frazho	BPMS-02447
06	09/20/2016	5.2 Deleted "and respective Supplier Quality Representative" 6.1 Changed Solutions to Services 6.7 and 6.8 Added 7.2 Split verbiage between Combat Vehicles and Weapon Systems 7.3 Added 8.1 Split between Combat Vehicles and Weapons Systems 8.3 Changed the last part of paragraph; added "the" to the 11 th bullet; added verbiage to the 12 th and 13 th bullets; changed "this" to "the" in the 2 nd paragraph; changed/added verbiage to the 3 rd paragraph; changed the 5 th bullet 8.5 Added verbiage to the 7 th bullet 8.9 Added verbiage to the 3 rd bullet and 3 rd and 4 th paragraph; changed" the" to "all" in the 5 th paragraph 8.12 Added 9.1 Changed/added verbiage to the 1 st and 2 nd paragraphs 9.2 Changed MIL standard acronym to PRF 9.4 Added :the" to the 3 rd bullet	Tom Frazho	BPMS-03125
07	12/20/2017	Added new Phoenix mailbox to paragraph 8.12 Data Submission Instructions; Add verbiage for VIR form for York/Anniston CAS	T Frazho / R Zuniga / K Sturm	BPMS-03820

Rev	Date	Change Description	Approved By	Change Request #
08	06/22/2018	Added paragraph 8.13 ; Added "Use the ... and removed the date from paragraph 6.5 Bearings, Changed Quality Rating and the Quality Risk Assessment ratings for both CV and Weapons Systems, added verbiage and/or placed on Containment Level I or II, changed 90% to 98% and added Risk Assessment to paragraph 8.1, changed 9001 2008 to 9001 2015 in paragraphs 8.2 and 8.4, corrected dis across to discrepancy (typo), changed revision date and rev number to all pages	T Frazho / R Zuniga / K Sturm	BPMS-04032
09	03/25/2019	Deleted pp 9.4 Age Sensitive Materials and added pp 9.4 Supplier Qualification / First Article Testing, added definitions for applicable CAS Business Units to pp 2.0, changed pp 6.1 third party to sub tier Supplier, pp 7.2 rewrote the paragraph on Part Identification Marking, pp 8.3 added First Article Test"/Inspection", reformatted for clarity and removed extra CV sites from the list. Added bullets for Inspection Report and Balloon drawing to Section 8.3	James Dolan Tom Frazho Richard Zuniga Kenneth Sturm	BPMS-04524
10	02/17/2020	Corrected SQAM Document No. pp 4.0, rewrote the following sections; 6.8, 7.2, 8.12 and 9.1 for clarity, added required hold time visual/NDT inspection, pp 7.1 added "special process".	James Dolan Tom Frazho Ryan Cunningham Kenneth Sturm	BPMS-05100
11	10/07/2020	Added items to 3.3 for notification requirements, rewrote paragraph 7.2 to clarify the identification requirements, changed 7.2 & 8.1 to CMS, added Receiving Inspector as a backup for SQE & QE	James Dolan Tom Frazho Ryan Cunningham Kenneth Sturm	BPMS-05916
12	03/22/2021	Added pandemics to 3.1, added new verbiage to 3.3, added new verbiage to 4.0, deleted a part of the first paragraph in 5.2, changed verbiage in 5.2, last paragraph, changed to CMS in 6.1, and 6.6, deleted all references to electronics in 6.7, as well as added and changed, verbiage in the bullets section, added new verbiage in 7.1, added 7.1.3, changed and added verbiage in 8.2, moved a section further down in section 8.3, and added SPS to the section, added and changed other verbiage in 8.3, added the last bullet in 8.9, added verbiage to 8.10, changed and added addresses in 8.12	James Dolan Tom Frazho Ryan Cunningham Kenneth Sturm	BPMS-06397

Rev	Date	Change Description	Approved By	Change Request #
13	01/19/2022	1.0: Added acronyms 3.3: Added Supplier name change 7.1: Removed the words bonding and casting from the first set of bullets 7.1.2: Added Supply Chain website link 7.2: Added supplier responsibility statement 8.1: Removed old calculations; added new calculations 8.2: Added IATF, IEC 17025 and the word accredited 8.3: Added First Article Inspection – FAI to the first paragraph 8.4: Added IEC 17025 8.9: Added 1801 Electronics Drive address	James Dolan Tom Frazho Scott Heyd Kenneth Sturm	BPMS-06998
14	02/07/2023	1.0: Added several acronyms 3.3: Added rejection of any product shipped to the last paragraph 5.3: Added Commercial off the Shelf (COTS) 6.6: Added /assemblies to the first paragraph 7.1: Changed better to higher and added CDR 030C 7.1.2: Deleted the old supplier website link 7.1.3, 7.1.3.1, 7.1.3.2: Rewrote paragraphs 7.1.3.3: Added new 7.3: Added CARC and additional verbiage to several sentences for clarity 8.1: Added placing the supplier in the supplier development program 8.2: Changed Authorized BAE Systems to Supplier 8.3: Added FP acronym to First Piece, Part Number, Picture of identification, is required, and changed some verbiage 8.5: Added the fourth bullet – Unique Item Identifier, i.e. date codes, lot codes, heat codes, serializations, unique item identifiers, or batch identifications as applicable 8.12: Added Drop Ship Note/Instructions 8.9: Added Read Across, removed reference to Notification of Nonconformance and replaced SCAR with Level II....Request	James Dolan Randy Fawver Scott Heyd Kenneth Sturm	BPMS-07705

Rev	Date	Change Description	Approved By	Change Request #
		9.2: Corrected several specifications that became obsolete 9.4: Revised to clarify requirements		
15	03/16/2023	Section 8.12 – removed reference to ship documents with parts to Aberdeen, Louisville, or Minneapolis sites. This is due to change in source inspection placement in Oracle and a common CMS process.	James Dolan Randy Fawver Scott Heyd Kenneth Sturm	BPMS-07825

Preface

"BAE Systems, Combat Mission Systems, (CMS) is committed to providing its customers with products and services which demonstrate safety, quality, reliability, and innovation. It is our objective to meet all customer requirements with the aim of exceeding their expectations and enhancing customer satisfaction. We monitor our process performance, review our quality objectives, and maintain compliance to the Quality Management System and applicable regulatory requirements. BAE Systems strives to continually improve our products and processes from design to delivery, including employee safety, waste reduction, and pollution prevention to ensure the sustainability of our company".

We strive to continually improve our process performance by meeting quality objectives, and maintain compliance to the applicable regulatory requirements of our work environment. It is imperative that our business partners operate with the goal of zero defects and 100% on-time delivery and strive to maintain a quality system that ensures continual improvement in the quality and delivery of the product or service. Emphasis should be on defect prevention and the reduction of variation and waste in the Supply Chain, with the ultimate goal of providing the best product, on time, and at the best cost in support of the war fighter.

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1.0 Acronyms

ADCN:	Advance Drawing Change Notification
ANSI:	American National Standards Institute
APQP	Advanced Product Quality Planning
APR:	Authorized Purchasing Representative
AQL:	Acceptance Quality Level
CARC:	Chemical Agent Resistant Coating
CDR:	Contract Deliverable Requirement
COTS	Commercial Off The Shelf
C-PLAN	Control Plan
CQR	Contract Quality Requirements
DCMA:	Defense Contracts Management Agency
DFAR:	Defense Federal Acquisition Regulations
DOT:	Department of Transportation
FAI:	First Article inspection
FAR:	Federal Acquisition Regulations
FAT:	First Article Test
FPI:	First Piece Inspection
GFE	Government Furnished Equipment
GFM	Government Furnished Material
ISO:	International Organization for Standardization
ISIR:	Initial Sample Inspection Report
ITAR:	International Traffic in Arms Regulations
IWO:	Interdivisional Work Order
NADCAP	National Aerospace and Defense Contractors Accreditation Program
NDE:	Non-destructive Examination
NOR:	Notification of Revision
OSHA:	Occupational Safety and Health Administration
PFMEA	Process Failure Mode Effects Analysis
PO:	Purchase Order
PPAP:	Production Part Approval Process
QAP:	Quality Assurance Provisions
QAR:	Quality Assurance Requirements
ROM	Rough Order of Magnitude
SAE:	Society of Automotive Engineers
SPS:	Standard Process Specification
SQAM	Supplier Quality Assurance Manual
SQAP:	Supplier Quality Assurance Provisions
TDP:	Technical Data Package
UN:	United Nations
VIR:	Vendor Information Request
WPS:	Weld Procedure Specification

2.0 Introduction

This manual is applicable to all PO's, Contracts, Subcontracts/Statements of Work (SOW), and IWO in which it is referenced; these documents shall be collectively referred to as "Purchasing Agreements" in this manual. The applicable revision of this manual shall be identified in the body of the Purchasing Agreement. This manual defines the expectations and requirements with which Suppliers and their sub-tier Suppliers **must** comply when providing material and/or services under this purchasing agreement. **Acceptance of any Purchasing Agreement that references this manual constitutes acceptance of all requirements contained herein.** Some sections of this manual may only apply to specific commodities or situations and will be identified as such.

All communications relative to the requirements of this purchasing agreement, it's associated technical data package, or this manual shall be directed to the appropriate BAE Systems Authorized Purchasing Representative, (APR).

As used in this manual, the terms "Supplier", "Seller", "Vendor", and "Subcontractor" shall have the same meaning and may be used interchangeably.

Combat Mission Systems is defined to include the following facilities: York, Elgin, Sterling Heights, San Jose, Aiken, Phoenix, Anniston, Aberdeen, Louisville and Minneapolis.

3.0 Contracts

3.1 Business Continuity Planning

Because of BAE Systems' relationship with its Customer and our sense of responsibility to the war fighter, it is imperative that we deliver quality products in accordance with our customer's schedule. Unforeseen events are a part of our daily life, but our goal is to be as prepared as possible when unforeseen events occur. To this end, BAE Systems requires its Suppliers to maintain, and provide upon request, a business continuity plan which will mitigate the risks from events such as floods, fires, earthquakes, pandemics, and acts of terrorism and permit the Supplier to fulfill their commitments to both BAE Systems and to those who work to protect our freedom.

3.2 E-business Capabilities

The Supplier shall have email, internet access, and document scanning capabilities sufficient to communicate electronically and provide/receive documentation in electronic format. Documentation includes, but is not limited to, inspection reports, test reports, material certifications, and process certifications. It is the Supplier's responsibility to ensure that documentation converted from paper to electronic format is **legible and complete.**

3.3 Notification Responsibilities

The Supplier shall notify their APR in writing using VIR 089725, as set forth in Section 5.2 below, in the event that any one of the following occurs:

- Change to/relocation of Supplier's facility
- Change in quality systems or operations management
- Any change to the manufacturing process (Note: Applicable to all Tiers of Suppliers)
- Change to Quality Management System registration, including issuance of a new registration certificate
- Break in production of 24 months or more
- All Drawing changes whether received from BAE Systems or any Supplier

- Supplier Name change

Failure to notify BAE Systems in a timely manner prior to shipping product may result in the following:

- On-site inspection by BAE Systems or their representative at the Supplier's expense
- Audit of the Supplier's facility at the Supplier's expense
- Withholding of new business opportunities
- Rejection of any product shipped

3.4 Confidentiality

When the Supplier has been given access to BAE Systems proprietary information, the Supplier shall take such steps as are necessary to minimize the exposure of that information within its facility and to prevent said information from unintended exposure to third parties. If the Supplier determines that proprietary/confidential information has been or may have been compromised, they shall notify the BAE Systems APR immediately.

In the event that a Non-disclosure Agreement (NDA) is entered into between the Supplier and BAE Systems, the Supplier shall contact BAE Systems prior to passing proprietary information to a sub-tier Supplier to determine if a separate NDA is required between BAE Systems and the sub-tier Supplier.

3.5 Control of BAE Systems-furnished Property

For any property furnished to the Supplier by BAE Systems (materials, tooling, product, etc.) the Supplier shall perform the following actions:

- Maintain a system to ensure the adequate control and protection of all furnished property
- Plainly mark or otherwise adequately identify furnished property as the property of BAE Systems
- Safely store all furnished property separately and apart from the Supplier's property
- Keep all furnished property in the Supplier's possession and/or control in good and serviceable condition (including the performance of calibration and preventative maintenance) and free of liens and encumbrances
- Unless the property is modified, as part of the Supplier's normal manufacturing process, furnished property should be returned in the same condition as originally received by the Supplier, reasonable wear and tear accepted.
- All GFM/GFE and BAE Systems' property furnished for this Purchasing Agreement must be recoverable and returned to BAE Systems when directed
- Any property furnished by BAE Systems shall not be used in the execution of contracts for any other customer without prior written permission from BAE Systems

BAE Systems reserves the right to audit the Supplier's Customer-furnished Property Management System as necessary to ensure compliance to this requirement.

4.0 Order of Precedence

In the event of a conflict between the requirements contained within this purchasing agreement, the following order of precedence shall apply:

- Authorized changes to the purchasing agreement

- Purchasing Agreement (Note: may include notes attached to the purchase order and/or configuration notes on the CQR, etc.)
- 095871 Contract Deliverable Requirements (CDR)
- 095870 Supplier Quality Assurance Manual (SQAM)
- Authorized Changes to the Drawing(s) (i.e. ADCN, NOR, etc.)
- Drawing(s)
- Applicable Acceptance and Quality Specifications (Performance Specification, QAP, SQAP, QAR, SPS, etc.)
- Specifications cited on the Drawing
- Documents cited within Specifications

Control of the TDP applies to all documents the Supplier provides to their sub-tier Suppliers. The Supplier to BAE Systems, CMS, is fully responsible for the work performed by sub-tier Suppliers. (Note: this includes Suppliers directed by BAE Systems, Suppliers that may be listed on the BAE Systems' Approved Supplier List, or Suppliers selected by the Supplier).

5.0 Engineering

5.1 Revision Levels

Unless the Purchasing Agreement specifies usage of an earlier version, the latest revision/supersession of specifications/standards referenced in the technical data package at the time the purchasing agreement is released, applies.

5.2 Requests for Information/Change/Material Disposition

All requests for information/clarification, requests for change, and requests for disposition of nonconforming material shall follow the embedded link in the form. 089725 Vendor Information Request (VIR) is required to formally request the information/change/material disposition and will be available through the Purchasing website. The Supplier is not authorized to incorporate any changes until formal approval is received via a change to the purchasing agreement.

5.3 Technical Documents/Configuration Control

The Supplier shall have available all design records (drawings, specifications, etc.) for the products manufactured including components or details of assemblies and technical standards noted on the drawings. For parts identified as Commercial off the Shelf (COTS) catalog parts, this may consist of functional specifications or a reference to a recognized industry standard. Documents are to indicate the date of the design record and the change level and shall include any authorized engineering change documents used in conjunction with the part drawings.

Those Suppliers with design control over their own products shall have configuration management processes in place to manage design changes. Configuration disciplines required include configuration identification, configuration control, configuration status accounting, and configuration audits. These practices shall be subject to audit by BAE Systems. Suppliers not having design control will be required to safeguard our design, ensure the use of the required revision, and return proprietary information upon request.

Specifications and standards referenced in the technical data package (TDP) may be used to satisfy requirements even after the referenced documents are canceled. Replacement

specifications and standards may also be used to satisfy TDP requirements in lieu of the canceled document, but must be noted within the supporting documentation. Acceptance of the replacement specification or standard will be at the discretion of the BAE Systems Quality representative.

Technical data packages may include ITAR-controlled drawings, which are subject to export control laws.

6.0 Purchasing

6.1 Sub-tier Management

The Supplier assumes all responsibility for the end-item deliverables and any associated documentation. In the event that a sub-tier Supplier is used in the execution of this purchasing agreement, the Supplier is responsible to:

- Manage that sub-tier Supplier
- Ensure that, where required by paragraph 7.1 and its subparagraphs, that only **Suppliers approved by BAE Systems, Combat Missions Systems or by an accredited third party, such as NADCAP**, are used for special processes
- Flow down the requirements of this manual and all relevant/directed Purchasing Agreement requirements
- Provide sub-tier Supplier documentation upon request by BAE Systems
- Ensure timely response from the sub-tier Supplier if corrective action becomes necessary

At no time will BAE Systems actively engage a sub-tier Supplier regarding an open purchase order item without first notifying the Supplier.

6.2 Source Controlled Drawings/Vendor Item Drawings

Drawings identified as "Source Controlled" contain a list of approved source (s) of supply. The Supplier is required to purchase these items from an approved source. Where the approved Supplier cannot be used, written authorization from BAE Systems is required prior to purchasing material from an unapproved source.

Drawings identified as "Vendor Item" contain a list of recommended source (s) of supply. The Supplier is recommended to purchase these items from the recommended source (s).

6.3 Qualified Products List

Any items supplied against this purchasing agreement applicable to a Government Qualified Products List/Database as defined by the specification (s), such as paint products, pre-treatment chemicals, electrical connectors, etc., must be manufactured by and traceable to a Government-approved source.

6.4 Prohibition on Acquisition of Materials from China

It is mandatory that the Supplier adhere to the following DFAR requirement. The most recent revision of the DFAR clause is stated below however the Supplier shall adhere to the latest revision as of the issuance of their Purchasing Agreement.

DFAR 252.225-7007 Prohibition on Acquisition of United States Munitions List Items from Communist Chinese Military Companies.

As prescribed in 225.1103(4), use the following clause:

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PROHIBITION ON ACQUISITION OF UNITED STATES MUNITIONS LIST ITEMS FROM
COMMUNIST CHINESE MILITARY COMPANIES (SEP 2006)

(a) Definitions. As used in this clause-

"Communist Chinese military company" means any entity that is:

- (1) A part of the commercial or defense industrial base of the People's Republic of China; or
- (2) Owned or controlled by, or affiliated with, an element of the Government or armed forces of the People's Republic of China. "United States Munitions List" means the munitions list of the International Traffic in Arms Regulation in 22 CFR Part 121.

(b) Any supplies or services covered by the United States Munitions List that are delivered under this contract may not be acquired, directly or indirectly, from a Communist Chinese military company.

(c) The Contractor shall insert the substance of this clause, including this paragraph in all subcontracts for items covered by the United States Munitions List.

(End of Clause)

6.5 Bearings

The Supplier shall adhere to the requirements of DFAR 252.225-7016 for all ball and roller bearings supplied under this Purchasing Agreement. The most recent revision of the DFAR clause is stated below however the Supplier shall adhere to the latest revision as of the issuance of their Purchasing Agreement.

DFAR 252.225-7016 Restriction on Acquisition of Ball and Roller Bearings

As prescribed in 225.7009-5, use the following clause:

Use the clause at 252.225.7016. RESTRICTION ON ACQUISITION OF BALL AND ROLLER BEARINGS

(a) *Definitions.* As used in this clause—

- (1) "Bearing components," means the bearing element, retainer, inner race, or outer race.
- (2) "Component," other than a bearing component, means any item supplied to the Government as part of an end product or of another component.
- (3) "End product" means supplies delivered under a line item of this contract.

(b) Except as provided in paragraph (c) of this clause—

- (1) Each ball and roller bearing delivered under this contract shall be manufactured in the United States, its outlying areas, or Canada; and
- (2) For each ball or roller bearing, the cost of the bearing components manufactured in the United States, its outlying areas, or Canada shall exceed 50 percent of the total cost of the bearing components of that ball or roller bearing.

(c) The restriction in paragraph (b) of this clause does not apply to ball or roller bearings that are acquired as—

- (1) Commercial components of a noncommercial end product; or
- (2) Commercial or noncommercial components of a commercial component of a

noncommercial end product.

- (d) The restriction in paragraph (b) of this clause may be waived upon request from the Contractor in accordance with subsection [225.7009-4](#) of the Defense Federal Acquisition Regulation Supplement.
- (e) If this contract includes DFARS clause [252.225-7009](#), Restriction on Acquisition of Certain Articles Containing Specialty Metals, all bearings that contain specialty metals, as defined in that clause, must meet the requirements of that clause.
- (f) The Contractor shall insert the substance of this clause, including this paragraph (f), in all subcontracts, except those for—
- (1) Commercial items; or
 - (2) Items that do not contain ball or roller bearings.

(End of clause)

6.6 Traceability of Specialty Metals

All specialty metals used to produce parts/assemblies for BAE Systems Combat Missions Systems (CMS) and sold to the US Government shall be traceable to their country of origin. Objective evidence verifying the country of origin, i.e., Material Certificate of Analysis, shall be presented upon request by BAE Systems or the US Government.

Refer directly to DFARS 252.225-7008 and 252.225-7009 for the definitions of specialty metals and the permitted countries of origin.

6.7 Counterfeit Parts Prevention Plan

A Counterfeit Part is a Part that is: (1) an unauthorized copy or substitute that has been identified, marked, and/or altered by a source other than the Original Component Manufacturer (OCM) or Authorized Distribution Chain and has been misrepresented to be an OCM's authorized Part; and/or (2) previously used Parts that are misrepresented as being "new" when provided. The Supplier is responsible to prevent counterfeit materials from being provided to BAE Systems. To that end, the Supplier shall:

- Obtain parts only from the OCM or their Authorized Distribution Chain.
- Obtain other parts or materials when CDR 086 is applied, only from the OCM or their Authorized Distribution Chain.
- Obtain written authorization from BAE Systems prior to purchasing parts from any source other than the OCM or their Authorized Distribution Chain (i.e. Independent Distributors).
- Verify parts obtained from Independent Distributors through in-house or third party testing/inspection or through supplied certificates of authenticity/origin to determine authenticity; documentation must be retained on file and provided upon request to BAE Systems.
- Confine all suspect/identified Counterfeit Parts to ensure that they cannot reenter the market; **do not return counterfeit/suspect counterfeit parts to the Supplier.**

- Notify the BAE Systems APR in writing in the event that Counterfeit/Suspect Counterfeit Parts are found.
- Supplier must have processes for maintaining part traceability for all parts or material with CDR 086 requirement assigned (e.g., item unique identification) that enable tracking of the Supply Chain back to the original manufacturer, whether the parts are supplied as discrete parts or are contained in assemblies. This traceability process shall include certification and traceability documentation developed by manufacturers in accordance with Government and industry standards; clear identification of the name and location of Supply Chain intermediaries from the manufacturer to the direct source of the product for the seller; and, where available, the manufacturer's batch identification for the part (s), such as date codes, lot codes, or serial numbers. If IUID marking is selected as a traceability mechanism, its usage shall comply with the item marking requirements of DFARS 252.211-7003, Item Unique Identification and Valuation.

6.8 Commercial Off The Shelf (COTS) Parts

Commercial off the Shelf (COTS) parts are commercially available items by design to be procured and utilized without modification (e.g. common electronic components).

Paragraph 8.3 of the SQAM is not applicable to this item; the Supplier shall provide a certificate of conformance and/or a packing slip as the objective quality evidence where no other objective evidence is available.

7.0 Production

7.1 Special Processes

All special processes identified below and utilized on a BAE Systems' Purchase Agreement require certification by NADCAP or approval by BAE Systems. Special process requirements identified below shall be flowed down to all sub-tier Suppliers. The Supplier shall provide a current Certificate of Conformance (C of C) certifying compliance for all special processes identified below and performed as required by the TDP. All special process Suppliers or their sub-tier Suppliers utilized on the Purchasing Agreement shall have a current accreditation by NADCAP or approved by BAE Systems. The Certificate of Compliance shall define and document all processes used in satisfying the TDP/Purchasing Agreement requirements and the date of the last audit. Special processes will be as defined below in our SQAM, AS9100 and by NADCAP. All costs associated with NADCAP accreditation shall be borne by the special process Supplier.

Special processes include, but may not be limited to, any of the following:

- The following special processes are required to be approved by BAE Systems
 - Chemical Agent Reactive Coating (CARC) Painting does not require NADCAP, but requires BAE Process Audit Approval
 - Soldering
 - Welding/Brazing requires BAE Systems Weld Process Audit Approval and Weld Procedure Approval **prior** to welding

- The following special processes are required to be approved by NADCAP when the specific CDR 030C is applied to the contract
 - Heat Treating
 - Painting (Non CARC Painting)/Coating
 - Plating
- The following special processes are required to be certified to the identified standards.
 - Destructive/Non-destructive Testing (shall comply with ASNT TC1A or NAS410) Note personnel shall have a Level 2 or higher certification.

7.1.1 General Special Process Requirements

For Suppliers providing items, which require special processing, the special process Supplier shall:

- Maintain training/certification documentation for operators and inspectors in support of the special process being performed and make those records available to BAE Systems upon request. Operators/Inspectors performing NDE, soldering, and/or welding/brazing shall be certified to the proper level as identified in the specifications called out in the TDP of the purchase agreement.
- Maintain special process procedures/work instructions with revision control
- Maintain objective evidence of product compliance to the relevant specification(s) governing that special process

Additional requirements for certain special processes may be applicable through the purchasing agreement.

7.1.2 Chemical Agent Resistant Coating (CARC)

Processing of CARC-finished parts/assemblies shall **only** be performed by a BAE Systems approved Supplier. Parts received which are not finished by an approved Supplier will be rejected and may be subject to rework by an approved Supplier at the Supplier's expense. For the approved CARC Paint Supplier list, please see the Platform & Services Purchasing Website (<https://www.baesystems.com/en-us/our-company/suppliers/united-states/platforms-and-services/combat-mission-systems>) "Approved Painter List

7.1.2.1 Test and Inspection Documentation

The Supplier shall provide a copy of all test and inspection documentation for BAE Systems' review upon request as follows:

- Name and address of the finisher
- Part number
- Purchasing Agreement number
- Signature, printed name, and title of the Supplier Representative
- Certification date
- List of specifications used in the processing of the paint
- Paint thickness of a sample of actual parts for the primer
- Paint thickness of a sample of actual parts for the top coat
- Material lot/batch number(s)
- Material expiration date(s)

- A Certificate of Conformance

7.1.3 Welding/Brazing

The welding/brazing of BAE Systems part(s) and/or assemblies **SHALL** only be performed by Suppliers/Sub-Tier Suppliers whose procedure(s) have been approved by BAE Systems. It is the responsibility of all Tier-1 Suppliers to flow down these requirements to all Sub-Tier Suppliers. Parts received, which were not welded/brazed in accordance with these requirements **SHALL** be rejected and may be subject to rework as directed by BAE Systems or scrapped at the Supplier's expense.

7.1.3.1 Weld Process Audit

The Weld/Braze Supplier meeting the following criteria **SHALL** be approved to utilize BAE Systems Qualified Weld Procedures for CDR007; Welding-Combat Vehicles:

- Suppliers completing a successful Weld/Braze Process Audit confirming that the Supplier has adequate weld/braze systems in place **prior** to performing any welding/brazing for BAE Systems.
 - Have an approved weld/braze audit on file at BAE Systems
- Completed a BAE Systems Supplier Weld Procedure Training Program

7.1.3.2 Supplier Weld Procedures

The BAE Systems Weld/Braze Supplier **SHALL** submit and gain approval on all Weld/Braze Procedure(s) **PRIOR** to the start of fabrication.

7.1.3.3 Base Material Cleanliness

PRIOR to welding/brazing, base material **SHALL** be cleaned in accordance with the following requirements and methods:

Steel

All areas a minimum of 2 inches (where applicable) beyond the weld joint must be free of all foreign materials such as oil, oxide, slag, silicon deposits, paint, grease, moisture and millscale. The weld area shall be cleaned by one or more of the following methods **PRIOR** to joint fitup:

- Steam cleaning (removal of grease and oil)
- Solvent cleaning (removal of grease, oil and moisture)
- Grinding (removal of oxide, slag, silicon deposits and millscale)

*Note: Only grinding discs and wheels approved for ferrous and stainless materials **SHALL** be utilized.*
- Blasting (removal of oxide, slag, silicon deposits and millscale)

The joint **SHALL** be cleaned a minimum of 2 inches (where applicable) beyond the weld joint with a wire brush immediately **PRIOR** welding.

*Note: For stainless steel base material only stainless steel wire brushes **SHALL** be utilized.*

Aluminum

All surfaces to be welded **SHALL** be free from aluminum oxide, paint, grease, cutting fluids and moisture. Aluminum weld surfaces **SHALL** be cleaned using the following options:

Option A: Localized Cleaning

Step 1: Degreasing- Degrease the surface a minimum of 4 inches (when applicable) beyond the weld joint. This shall be obtained by one of the following methods:

- A. Steam Cleaning
- B. Degreaser
 - LPS ZeroTri
- C. Isopropyl Alcohol (99% minimum)

Step 2: Oxide removal -Sand the oxide layer with a non-woven aluminum oxide pad (Scotch Brite) and/or ceramic alumina disc (Norton) a minimum of 4 inches (where applicable) beyond the weld joint.

Step 3: Post Oxide removal- Remove all dust and debris off plate **PRIOR** to fit up. Re-wipe a minimum of 4 inches (when applicable) beyond the weld joint with isopropyl alcohol and/or ZeroTri, using a lint free paper towel, until clean.

Step 4: Stainless steel wire brushing* **SHALL** be utilized as follows:

- A. Wire brush a minimum of 2 inches (where applicable) beyond the tacked weld joint to remove loose debris and light oxide.
- B. Wire brush welds between all subsequent passes to remove smut, debris, etc.
- C. Wire brushing **SHALL** be done within 24 hours **PRIOR** to welding.

Option B: Chemical Dip

Step 1: Chemical dip per local procedure and/or manufacturer recommendation.

Step 2: Stainless steel wire brushing* **SHALL** be used as follows:

- A. Wire brush a minimum of 2 inches (where applicable) beyond the tacked weld joint to remove loose debris and light oxide.
- B. Wire brush welds between all subsequent passes to remove smut, debris, etc.
- C. Wire brushing shall be done within 24 hours prior to welding.

***Note:** Wire brushing may be accomplished with a hand brush or rotary tool and must be kept clean.*

7.2 Part Identification Marking

Identify all parts using the criteria listed below:

- All commercial parts will be identified as defined on the commercial TDP.
- Outside Special Processes, (OSP) will be marked per the Statement of Work, (SOW).
- All other parts are to be marked with the following criteria:
 - Part Number as defined on the purchase order line item for the part.
 - Cage Code as defined on the drawing as applicable.
 - Cage Code of the producing Supplier/vendor.
- The method will be as defined on the drawing:
 - If no method is defined use MIL-STD-130 as a guide for determining the marking/identification method.
 - The marking method cannot affect form, fit, or function of the part.
- The location will be as defined on the drawing:
 - If no location is defined, the Supplier is to determine the best marking location.
 - The marking location cannot affect form, fit, or function of the part.

If there are any questions, please submit a VIR for clarification.

The Supplier shall ensure that parts are legibly marked in accordance with these requirements. (If this identification is no longer visible, after all finishing processes have been completed the info must be reapplied with the identification method to be determined by the Supplier, the identification process cannot affect form, fit or function of the part). Objective evidence must be made available upon request to support the original marking methods used.

Suppliers are responsible for maintaining objective evidence for all part marking compliance for each shipment, coordinating and documenting the traceability to the specific shipment.

7.3 CARC Paint Marking

All CARC painted parts and CARC painted sub-components large enough to be individually marked shall be marked with the name or logo of the painter and the date or lot identification on which the parts were painted. If the Supplier CARC paints the parts, only the date on which the parts are painted is required. Marking shall be ink stamped in a contrasting color with the size and font at the discretion of the Supplier. Items too small to be individually marked shall have this information marked on the packaging. Wherever possible, separate part marking and CARC paint marking for clarity.

This is not applicable to the Anniston Spares Program or any TDP requiring paint other than CARC Paint.

Example:

ABC Finishing Company
1/1/2012

8.0 Quality

8.1 Supplier Monitoring and Rating

BAE Systems, Combat Mission Systems rates and monitors the performance of its Suppliers. A Supplier's rating is based upon:

- Quality Rating
 - % Acceptance
 - 1 - Total Defectives / Total Receipts

Suppliers who fall below a determined quality level (98% Quality Rating) of performance may be subject to various activities including, but not limited to, audit by BAE Systems, request for a corrective action improvement plan, placing the Supplier in the Supplier development program, prohibiting the Supplier from receiving new business and/or placed on Containment Level I or II.

8.2 Quality Management System

The Supplier shall develop, document, implement and maintain a quality system, which ensures compliance to all purchasing agreement requirements. The quality system shall be compliant

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with ISO 9001-2015 (or latest version), AS 9100, TS 16949, IATF 16949, NADCAP, ISO/IEC 17025 or a quality system approved by an Accredited Third Party Registrar. Certification to ISO 9001/AS9100/TS 16949/IATF 16949/NADCAP/ISO/IEC 17025 by an accredited registered third party is required unless otherwise stipulated within the contract (Purchase Order). Objective evidence shall be on file verifying that such a system exists, is being maintained, and is compliant with the standard requirements. Supplier representatives, upon request, shall make procedures and records available for examination. BAE Systems reserves the right to audit the Supplier at any time with prior notice.

8.3 Inspection

The Supplier will inspect the First Piece (FP) / First Article Inspection - FAI manufactured for this Purchasing Agreement to all drawing characteristics, drawing notes and Purchasing Agreement requirements and will maintain on file a report which includes the following elements:

- Supplier's name and the manufacturing address
- Purchasing agreement number and line number
- Item number/Part Number, description, and revision as they appear on the purchasing agreement
- Lot quantity
- Certificate of compliance for the delivered item (as defined by paragraph 8.5)
- Material certificates/ballistic firing records (where applicable)
- Special process certifications (where applicable)
- Inspection Report
- Balloon Drawing
- Picture of identification marking
- First Article Test/Inspection reports (where applicable)
- Production test reports (where applicable)
- Date of last control test and next control test, and, if a control test was performed on the current lot, a copy of the control test report (where applicable)
- Verification of all drawing notes, dimensions, and associated QAP/QAR/SQAP/SPS/ Specification requirements, with the requirement and measured values recorded.
Variable data shall be recorded with actual values measured for each sample.
 The Supplier shall provide traceability from the measured value to the drawing characteristic; e.g. ballooned drawing (all characteristics, including drawing notes, numbered)
- For assemblies, verification of all component-level (those components identified on the top-level drawing or are identified in the BOM listed on the top level drawing) drawing notes, dimensions, and associated QAP/QAR/SQAP/SPS/ Specification requirements, with the requirement and measured values recorded. **Variable data shall be recorded with actual values measured for each sample**
- Inspector's name, signature, and date (electronic or digital signatures are acceptable)

The First Piece/First Article Inspection report will be submitted to BAE Systems as required by the Purchasing Agreement. BAE Systems reserves the right to request additional copies of First

Piece/First Article and In-process inspection records at any time. Requests for records shall be fulfilled within five (5) business days.

(Note: If product under this purchasing agreement has been in continuous production and has not been changed since the last order, an additional first piece requirement is not required. Continuous production is defined as no break in production or process in excess of twenty-four (24) months, unless otherwise directed)

Following the First Piece/First Article Inspection, the Supplier shall have a process in place, which ensures that all supplied product is compliant to all Purchasing Agreement requirements. This process shall consist of a C=0 sampling plan, SPC, or any other method which ensures that the final shipped product is compliant. If required by contract the Supplier may be required to submit a plan to BAE Systems for approval. Record of the plan approval shall be kept on file with the first piece acceptance documentation. If the first piece fails to meet the functional, dimensional or TDP requirements, a new first pc must be generated, tested and measured. Likewise, if the manufacturing process or design of the part changes, new parts are to be obtained that represents this new process/design and a delta First Piece/First Article inspection is required.

Inspection requirements for certain special processes, testing, and fasteners:

- Visual weld inspection sample shall be 100% or per applicable specification requirements
- Verification/validation of finishing processes shall be performed on each manufacturing lot unless a higher frequency is required by the relevant specification
- Non-Destructive Evaluation (NDE) / Non-Destructive Testing (NDT) as required by specification/contract.
- Frequency-based testing such as sample/quantity or sample/time period shall be followed unless a higher frequency is required by the relevant specification.
- Documented/specified fastener quality assurance requirements shall be followed.
- All visual inspection and NDT on armor and low alloy steel (100KSI tensile strength or greater) shall be completed no earlier than 48 hours after completion of welding.

Parts for which the design is proprietary to the Supplier, or their sub-tier Supplier, and which are ordered to the Supplier/Sub-tier Supplier's part number shall only require a certificate of conformance from the manufacturer.

The Supplier shall maintain records documenting product compliance to all applicable purchasing agreements, drawings, specifications, and standards for a period of ten (10) years for Phoenix orders and seven (7) years for all other sites after order completion. At the end of this period, if the Supplier desires to dispose/destroy the records, the Supplier shall contact BAE Systems and request disposition instructions, which may include authorization to destroy the records or instructions to forward the records to a BAE Systems facility.

8.4 Measuring and Test Equipment

The Supplier shall establish and maintain a documented calibration system to verify conformity of all measuring and test equipment (M&TE) such as gages, tools, jigs, fixtures and dies used to verify conformity to requirements. This system shall be compliant with ISO 9001:2015 (or latest version), AS 9100, TS 16949, ISO/IEC 17025 or shall be approved by BAE Systems.

Outside calibration and inspection/test, services used shall maintain a system in accordance with a recognized standard such as ISO 10012, or ISO/IEC 17025 and shall address the criteria described in the selected standard.

8.5 Certificate of Compliance

The Supplier, when required by the purchasing agreement or upon request by BAE Systems, shall generate and provide a Certificate of Compliance. The instructions for submitting the Certificate of Compliance shall be as defined by CDR. This certificate, signed by an authorized representative, shall contain the following information:

- Supplier's name and address
- BAE Systems' purchasing agreement number and line number
- BAE Systems' item number, description, and revision as specified on the purchasing agreement
- Unique Item Identifier, i.e. date codes, lot codes, heat codes, serializations, unique item identifiers, or batch identifications as applicable
- Quantity
- A statement that the product/service meets all of the requirements of the purchasing agreement and its technical data package at the prescribed revision level.
- Exceptions, including waivers and deviations (as applicable)
- Signature, printed name, and title of signer (electronic or digital signatures are acceptable)
- Date

8.6 Non-conforming Material

The Supplier is responsible for establishing controls to ensure that products not conforming to the Purchasing Agreement are identified, segregated, dispositioned and controlled to prevent inadvertent use. All costs associated with non-conforming material, including freight, handling, material replacement, inspection, rework, etc., may be charged back to the Supplier.

When non-conforming items are to be returned to the Supplier, the Supplier shall provide a Return Material Authorization (RMA) number within 24 hours of notification. Failure to provide the RMA number within the specified time authorizes BAE Systems to return the items at its discretion.

In the event that the Supplier identifies a non-conformance, which they are not authorized to correct (i.e. repair or use as-is dispositions), the Supplier shall provide written notification, through submission of a VIR within 24 hours of discovery. They are required to provide complete traceability information for all known or suspect nonconforming product shipped, including but not limited to identification of batch/lot number, purchase order, part identification, and dates of shipment. The non-conforming items shall be quarantined at all BAE Systems/Supplier's facility until BAE Systems provides disposition instructions.

Where non-conforming items pose a risk to BAE Systems' production schedule, BAE Systems reserves the right to request the Supplier provide on-site support to screen for and/or correct the issue. Upon request, the Supplier shall arrange for on-site support within 24 hours of receipt of the request. Failure to provide on-site support authorizes BAE Systems to contract third-party support at the Supplier's expense.

8.7 Preliminary Material Review (PMR)

The Supplier is authorized to rework, scrap, or return to their sub-tier Supplier items, which are non-conforming, where these dispositions are subject to the following definitions:

- Rework: the correction of a non-conformance resulting in full compliance to the TDP requirements
- Scrap: disposal/destruction of the non-conforming item(s)
- Return to sub-tier Supplier: returning the item/component to its Supplier/Manufacturer

8.8 Material Review Board (MRB)

The Supplier may not repair non-conforming items or determine that the item may be used as-is unless written authorization is incorporated into the purchasing agreement. These dispositions are defined as follows:

- Repair: correction of the non-conformance resulting in a functional item, but where the item does not meet all of the requirements of the TDP
- Use As-is: the determination that the non-conformance does not impact the form, fit, or function of the item even though it does not meet all of the requirements of the TDP

8.9 Corrective Action

The Supplier is responsible for implementing systems capable of resolving problems adversely affecting quality. The Supplier shall:

- Contain all discrepant parts whether they are completed, in process, in inventory, in-transit, previously shipped or in the field.
- Determine root cause of the issue, why it wasn't detected in their system and what systemically failed to allow the deficiency.
- Identify impacts to similar items that use the same process, material, equipment and which may be affected by this discrepancy (Read Across).
- Implement corrective action to correct the deficiencies.
- Implement preventative actions to preclude future occurrences of the issue(s).
- Verify and validate all corrective/preventative actions for effectiveness.

Records, which document the above actions, shall be maintained and made available to BAE Systems, upon request. These records may be in the Supplier's format as long as they address all requirements specified in this document.

In the event that a non-conformance is discovered by BAE Systems, there may be cause to issue a Level I or a Level II Corrective Action Request.

A Level I Corrective Action Request informs the Supplier that a non-conformance was identified but does not require a formal response from the Supplier. The Supplier is still responsible and shall correct the identified non-conformance in their process and document the actions taken in accordance with their internal corrective action procedures.

A Level II Supplier Corrective Action Request requires that the Supplier provide formal written analysis of the root cause and documented corrective and preventative actions. The formal

response from the Supplier must be received on or before the response due date or the Supplier's performance and/or risk rating may be impacted.

BAE Systems will, based on the supplied SCAR response, determine what follow up actions are required, if any, and completion of all follow up actions will be required before the SCAR can be closed.

8.10 Written Corrective Action Requests (WCAR)

In the event that the Supplier receives a WCAR related to, or similar to, product or processes provided to BAE Systems from the Defense Contract Management Agency (DCMA), and/or other customers, the Supplier is required to notify their BAE Systems APR of the WCAR record and the scope of the issue, regardless of the perceived impact to parts or services supplied to BAE Systems.

8.11 Right of Access

BAE Systems and its Customer reserve the right to perform inspection of product, witness testing, and/or review manufacturing and inspection processes/procedures at the Supplier's facility or their sub-tier Supplier's facility at any point during the execution of this purchasing agreement at no additional cost.

In support of these on-site activities, the Supplier shall make available any area of the facility or any individual relevant to the subject of the on-site visit. The Supplier shall also make available any required inspection equipment, records, drawings/technical data, and/or process documentation.

8.12 Data Submission Instructions

All data submissions, unless otherwise specified, shall be submitted electronically. The email subject line should include the relevant Purchasing Agreement number and part number. Paperwork should not be shipped with the product. The Supplier is required to use either an encrypted email system (setup between BAE Systems and the Supplier) or Secure File Transfer System (SFTS) for any and all technical data being submitted. Drawings, performance and test data, etc. are considered technical data and need to be protected at all times. All documentation submittals shall include a (092245) source inspection / CDR paperwork submission form.

Note: If the submissions are for Anniston Forge, Anniston Spares, or Phoenix, and the parts are not certified or source inspected, the data packages and form 092245 are not required to be submitted in advance for an acceptance signature. For these locations, the data packages are to be sent with the parts. If you are unsure of the parts your company is certified for, contact your purchasing representative.

All data submissions for the following ship-to addresses are to be submitted to **sqasterlinghts.pands@baesystems.com**:

1805 Coleman Road, Anniston, Alabama 36207

1801 Electronics Drive, Anniston, Alabama 36207

6331 San Ignacio Ave, San Jose, California 95119

200 Industrial Drive, Elgin, Oklahoma 73538

1100 Bairs Road, York, Pennsylvania 17405

15 Windham Blvd, Aiken, South Carolina, 29805

34201 Van Dyke Ave, Sterling Heights, Michigan 48312

1100 North Boundary Patrol Rd, New Boston, Texas 75570

All data submissions for the following ship-to addresses are to be submitted to **sqa.anniston@baesystems.com**:

104 National Drive, Anniston, Alabama 36207

2101 West 10th St, Anniston, Alabama 36201

All data submissions for the following ship-to addresses are to be submitted to **receivinginspectionaz@baesystems.com**:

7822 South 46th St, Phoenix, Arizona 85044

All data submissions for the following ship-to addresses are to be submitted to **sqa-admin.minneapolis@baesystems.com**:

1650 Industrial Blvd., Land and Armaments, Chula Vista California 91911

163 Rochester Drive, Louisville, Kentucky 40214

4800 East River Road, Minneapolis, Minnesota 55421

3317 8th Ave, Aberdeen, South Dakota 57401

915 Pearl Street, Norfolk, VA 23523

11655 Central Pkwy, Suite 308, Jacksonville FL 32224

Drop Shipments - When contract requirements provided within the Purchase Order (s) specify shipping locations that differ from the contracting facility. There are two (2) distinct variations of drop shipments. (a) Internal drop shipments are those where the ship to location is an alternate BAE Systems Facility. (b) External drop shipments are those where the ship to location is another company or business entity outside the BAE Systems Group and has no organizational relationship to the BAE Systems Facility that issued the Purchase Order (s).

1.0 INSTRUCTIONS:

Drop shipment CDR Submissions must always be provided to the BAE Systems Facility Email Address that issued the Purchase Order (s) IAW SQAM Clause 8.12. Examples are provided to ensure clarity and avoid confusion.

a. Example (a):**Purchasing Location: BAE Systems, 2101 West 10th St., Anniston, AL 36207.****Ship to Location: BAE Systems, 1100 Bairs Road, York, PA 17408.****Data Submissions: sqa.anniston@baesystems.com****b. Example (b):****Purchasing Location: BAE Systems, 1100 Bairs Road, York, PA 17408.****Ship to Location: XYZ Corporation, 2926 Pitkind Parkway, New York, NY 11208.****Data Submissions: sqasterlinghts.pands@baesystems.com****2.0 IMPORTANT REMINDERS:****a. Data Submission Paperwork should never accompany shipments.****b. Technical data must be submitted through SFTS or a jointly encrypted email system.****c. This notice is provided for clarification of CDR submission requirements where drop shipments are applicable only, and does not change, alter or modify the requirements of SQAM Clause 8.12. In the event of further clarification please contact your Purchasing Representative.****8.13 Containment Process****Level I Containment**

Controlled Shipping – Level 1 (CS1): CS1 requires the Supplier to contain the suspect product and perform a redundant 100% inspection process. This process is done either by the Supplier's employees or by an outside third-party inspection company. The Supplier is required to identify the root cause of the defect(s) and incorporate irreversible corrective actions. Following implementation of the irreversible corrective actions the Supplier is required to validate by the above process improvements actions are effective. Upon notification the Supplier must immediately contain by the agreed upon date all suspect product/material at the Supplier, customer, in-transit or at the ultimate customer as applicable.

Level II Containment

Controlled Shipping – Level 2 (CS2): The customer will require CS2 when the Supplier has failed to correct the problem in CS1 or has had major quality problems. In CS2, the Supplier is required to continue their in-house inspections as in CS1 and add an additional redundant inspection process performed by a third party inspection and sorting company. This third party

is selected by the Supplier, and is to be approved by the customer. The Supplier always pays the third party inspection and sorting company.

The root cause analysis and irrevocable corrective actions if identified/implemented in CS1 must be continued or redone until they are effective as verified by the data reported from the redundant inspection processes. Controlled Shipping Level 2 is required when the customer determines that Level 1 is not sufficient to isolate the customer from nonconforming parts. Normally this determination is based on:

- Repeat S-CAR's
- Duration, quantity, and/or severity of the quality problem
- Controlled Shipping Level 1 failures
- Major Disruptions (line stoppage)
- Major Quality problem (customer complaints, warranty defects, etc.)

Controlled Shipping Level 2 requires the Supplier to do all of the actions of Level 1 and to put in place a third party redundant inspection process to sort for nonconformance (s). The Supplier is required to implement a root cause problem solving process or to continue the root cause problem solving process started earlier. If the Supplier is unable to identify and correct the root cause, the customer may require the Supplier to employ a third party Quality Engineering firm to manage the corrective action process. Once the Supplier has met the defined exit criteria, the Supplier requests exit from Controlled Shipping – Level 2. The Supplier must provide supporting documentation and assessments on performance and corrective actions to the customer.

9.0 Packaging/Shipping

9.1 Cleanliness and Preservation

The Supplier shall furnish parts/components, which are free of mill scale, rust, carbon deposit, weld spatter, or any surface contaminant that would be detrimental to appearance, or functional performance (i.e. would prevent proper adhesion of coatings).

Unless specified otherwise on the drawing, specification and/or purchasing agreement, bare metal surfaces, (ferrous and non-ferrous), shall be protected from corrosion during manufacturing operations, storage and shipment. MIL-STD-2073-1 may be used as a guide for packaging and corrosion protection selection.

Prior to application of preservation, parts shall be cleaned by any suitable method not injurious to the item and dried. Method 20, 30 and 40 may be used, specific preservation method and application is dependent on the material being protected and criticality of the surface.

The selected corrosion prevention method shall be compatible with subsequent processing and shall not damage, degrade or cause latent defects to the part. Technical information regarding the preservative used shall be maintained on file by the Supplier and made available to BAE Systems upon request. If specific corrosion prevention requirements are defined on drawings, specifications, and/or purchasing agreement(s) those requirements will take precedence. The Supplier is prohibited from shipping parts/components on pallets constructed from lumber that has been pressure treated and/or has received metallic wood preservatives.

Any openings on components, such as electrical connectors, hydraulic/pneumatic fittings/ports, bare machined holes, and fuel ports, shall be properly plugged or capped to prevent internal contamination.

9.2 Packaging for Electrostatic Discharge (ESD) Sensitive Items

All Class 1, Class 2 and Class 3 parts, assemblies, and equipment, as defined by ANSI/ESD S20.20, are to be packaged in accordance with Paragraph 8.4 of ANSI/ESD S20.20. External shipping packaging for Class 1, Class 2, and Class 3 devices shall be identified with the ESD symbol. All other components with solderable leads and which are considered non-ESD sensitive per ANSI/ESD S20.20 shall be packaged in material that meets the requirements of MIL-PRF-81705, Type II or Type III. Bare printed wiring boards are to be packaged in heat-sealed non-static-generating poly bags that meet the requirements of MIL-PRF-81705 and ESD TR20.20.

9.3 Hazardous Material Control

In order to assure the proper storage, handling, use, and disposal of hazardous or potentially hazardous materials, every container shall be clearly marked with the following, as a minimum:

- Product Name
- Manufacturer's Name
- Manufacturer's Part Number
- Manufacturer's Batch Number or Lot Number
- Date of Manufacture
- Expiration Date, per manufacturer's specification
- Federal Hazardous Chemical Label (OSHA 1910, 1200 Compliant)
- BAE Systems Purchasing Agreement Number
- BAE Systems Item Number
- Applicable DOT/UN Placard/Labels

In addition, all products containing Volatile Organic Compounds (VOCs), such as paint, must be labeled by the manufacturer in accordance with applicable state and/or federal codes.

A copy of the Material Safety Data Sheet (MSDS) shall accompany each shipment.

9.4 Supplier Qualification / First Article Testing

Many components or assemblies may require the application of either or both Qualification Testing / First Article Testing prior to delivery. Examples include but are not limited to Electronic Line Replaceable Units (LRUs), Motors, Hydraulic Pumps, Control Assemblies, Seals, Filters, Actuators etc. This testing is described in Technical Data Package (TDP) within Drawing Notes, Performance Specifications and /or Quality Assurance Provisions (QAPs). These tests are performed to validate either the design of product capability to meet design specifications or production process capability to meet design specifications.

Typical reasons components governed by these requirements must be tested include:

- First time ever manufactured by Supplier (Includes non-approved source attempting to provide source controlled parts)
- Change in design, configuration, component or sub component parts whether directed by BAE Systems/PM-AFV or Supplier since initial test

- Change in manufacturing process (manufacturing line is moved, introduction of a new manufacturing technique, etc.) since initial test
- Change in manufacturing facility location since initial test
- Lapse in production of component greater than 24 months

These are significant tests that may require BAE Systems and or Government witness. Supplier shall submit plans, which include all testing to be performed and associated dates in advance of initiating any testing within 30 days of PO issuance. Supplier shall submit Final Test Report to BAE Systems and obtain approval of same, prior to shipping any representative product.

The Supplier shall, upon receipt of any request for quote (RFQ), review all associated TDP requirements to determine if component has any Qualification and or First Article Testing required within the TDP. Upon determination that components do have Qualification and or First Article Testing requirement the Supplier shall determine what testing is actually required due to any of the conditions noted above.

The Supplier shall prominently annotate in the response to the RFQ the following:

- Whether the component being quoted does or does not have any Qualification and/or First Article Testing required within the TDP.
- If component does have Qualification and or First Article Testing required within the TDP do any of the conditions listed above exist that would drive additional testing and if so annotate which condition applies and final date of last production run for the component.
- If testing is required due to BAE Systems required changes provide ROM Pricing for execution of the testing.