Quality Assurance Purchase Order Codes

Objective

Describes the purchase order codes utilized on Safran Electronics & Defense Avionics purchase documents indicating or specifying contractual obligations.

Initial Release

1.0 Acronyms

C of C	Certificate of Conformance
DFAR	Defense Federal Acquisition Regulations
DoD	Department of Defense
FAR	Federal Acquisition Regulations
EMS	Electro-Mechanical Systems
GRESS	General Requirements for Equipment and Systems Suppliers
IAW	In Accordance With
NSA	National Security Agency
PO	Purchase Order
QAP	Quality Assurance Provision
SCQA	Supply Chain Quality

2.0 General

2.1 Quality Assurance Purchase Order (PO) codes have been developed to meet specific requirements that are not necessarily addressed formally in any other requirement document such as EMS9000 and/or 99FP Terms and Conditions. They may also provide particular emphasis on current requirements that have been flowed via these documents. PO codes help meet the needs of the SCQA organization and customer contractual requirements.

2.2 When applicable, Quality Assurance PO Code are flowed to the supplier via the Purchase Order.

2.3 FAR/DFAT clauses, when applicable, can be flowed directly to the supplier on the purchase order. The flow down process is addressed in the EMS-OPS-P-700, Procurement System Process, and is independent of this Quality PO Code process.

2.4 Retiring Quality Assurance PO Codes does not drive the necessity for renumbering. Once the Quality Assurance PO has been retired, the number is no longer, and will no longer be used.

2.5 There may be occasions that an retired Quality Assurance PO Code is still showing as required by Purchase Order or some other means. Suppliers should indicate to the Safran EMS buyer this condition exist for clarification of true requirement. Internally contact SCQA for clarification and/or correction to the part material PO code field in SAP.

3.0 Quality Assurance PO Codes

EMS Code	Status	Paragraph	Code Description
EMS-01	Active	3.1	Government Source Inspection
EMS-02	Active	3.2	Safran Electronics & Defense Avionics Source Inspection
EMS-03	Active	3.3	Evidence of Inspections and Tests
EMS-04	Active	3.4	Evidence of Compliance with Configuration Requirements
EMS-05	Active	3.5	First Article Inspection by Safran Electronics & Defense Avionics
EMS-06	Retired	3.6	First Article Inspection, use EMS-28
EMS-07	Retired	3.7	Evidence of Mercury Exclusion
EMS-08	Retired	3.8	Selective Government Evaluation
EMS-09	Active	3.9	Physical and Chemical Test Reports Identified to Specific Lots
EMS-10	Active	3.10	Material Specimen Required - Fabrication/Machined Parts
EMS-11	Active	3.11	Devices Incorporated into COMSEC Equipment
EMS-12	Active	3.12	Quality Assurance Provision for JTIDS CREN
EMS-13	Retired	3.13	Documentation Submission
EMS-14	Active	3.14	Certificate of Conformance–General
EMS-15	Retired	3.15	Certificate of Conformance to Purchase Order Requirements
EMS-16	Retired	3.16	Direct Ship Authorization
EMS-17	Active	3.17	Delegation of Major Inspection Authority
EMS-18	Retired	3.18	AS/EN 9100 Requirement Flow down
EMS-19	Retired	3.19	Advanced Supplier Quality System Requirements
EMS-20	Retired	3.20	Tailored Provision
EMS-21	Retired	3.21	Foreign Object Debris/Damage (FOD) Prevention
EMS-22	Active	3.22	Moisture Sensitive Devices
EMS-23	Active	3.23	Packing Material for Soldered surfaces
EMS-24	Active	3.24	Limited Shelf Life Materials
EMS-25	Active	3.25	Gold-Plated Finishes

EMS-26	Retired	3.26	Legacy COTS Inspection System
EMS-27	Retired	3.27	Legacy Build-To-Print Quality Management System
EMS-28	Active	3.28	First Article Inspection IAW AS/EN9102
EMS-29	Retired	3.29	Qualification of Foundry Control Processes
EMS-30	Active	3.30	Approved Sources – Utilize NADCAP accreditation
EMS-31	Active	3.31	Traceability
EMS-32	Retired	3.32	Sampling Plans
EMS-33	Active	3.33	Variation Management Program
EMS-34	Retired	3.34	Tensile Strength Test is Required
EMS-35	Active	3.35	Special Processes
EMS-36	Active	3.36	Static Sensitive Materials
EMS-37	Active	3.37	Notifications of Changes to Work
EMS-38	Active	3.38	Re-submittal of Rejected Items
EMS-39	Retired	3.39	Environmental Test Data
EMS-40	Retired	3.40	Coating Scan Requirements
EMS-41	Retired	3.41	Certificate of Conformance by Manufacturer
EMS-42	Active	3.42	Value Add Services Required
EMS-43	Retired	3.43	Parker Aerospace Approved Special Processors
EMS-44	Active	3.44	Utilize EMS-OPS-I-023 Interpreting PWB Drawings in ECS
EMS-45	Active	3.45	100% Inspection - Loss of Life designation
EMS-46	Active	3.46	Adv. Product Quality Plan Production Part Approval Process

3.1 EMS-01–Government Source Inspection

Description:
Requirement for government inspection(s) of articles or services purchased will be required prior to shipment from your plant.

Supplier Key Requirements:
- Immediately upon receipt of this order, provide a copy to the Government inspection representative who normally services your plant or the Government agency delegated to perform inspection under this order. In the event the Government inspection representative or the delegated agency cannot be located, notify the Buyer's purchasing department immediately. The inspections will be performed as designated by the Buyer's cognizant Government inspection representative and may be conducted during processing, fabrication, or assembly. Specifications and changes thereto, related inspection and/or test equipment, and such other information as may be required to satisfactorily perform the quality assurance function under this order, will be provided to the inspector.

Supplier Key Deliverables:
- Entries shall be added to the Seller's commercial shipping document, packing list, or Certificate of Conformance to show evidence of completion of inspection and shall state the following:
    - o "Required inspection of listed items has been performed"

- o _____Signature of authorized Gov. Rep or DoD stamp
- o _____Date
- o _____Typed name and office/title

EMS Receive/Audit/Induct Inspection:

- Review documentation for:
  - o "Required inspection of listed items has been performed"
  - o _____Signature of authorized Gov. Rep or DoD stamp
  - o _____Date
  - o _____Typed name and office/title
- The above may be found on individual sheets, packing slip, CoC, or a standalone document.

3.2 EMS-02 – Safran EMS Source Inspection

Description:
Safran EMS Source Inspection.

Supplier Key Requirements:
- Safran EMS Source inspection(s) of the articles or services purchased will be required prior to shipment from your plant. Inspection will be performed as designated by Safran Electronics and Defense Avionics EMS-QMS-P-307, *Source Inspection*, and may be conducted during processing, fabrication, and/or as a final inspection. Seller shall notify Safran EMS Buyer seven (7) days prior to actual delivery date and not delivered prior to completion of source inspection.
- For the inspection service required by this order call the Safran EMS Procurement as listed on the PO.
- Seller shall maintain records of Safran EMS Source inspection, and such records shall be made available to Buyer upon request.

Supplier Key Deliverables:
- When articles or services are ready for inspection notify Safran EMS Source inspection representative and make available a copy of the related PO, applicable drawings, specifications and changes thereto, related inspection and/or test equipment, and other such information as may be required to satisfactorily perform the quality assurance function required under this order.

EMS Receive/Audit/Induct Inspection:
- No deliverable for RAI to review.

3.3 EMS-03–Evidence of Inspections and Tests Performed by Seller

Description:
Records of inspections and tests performed by Supplier must be provided with each shipment, this does not include special processes.

Supplier Key Requirements:

- Document any flow down contractual or engineering drawing directed inspection and/or test.

- If shipment destination is not the Buyer's facility, seller shall send the records with shipping documentation (i.e. invoice, DD-250, or DD-1149) to the address designated for those documents elsewhere in this order.

Supplier Key Deliverable:

- Provide evidence with each shipment that testing and/or inspection was accomplished per contractual and drawing requirements.

EMS Receive/Audit/Induct Inspection:

- Look for evidence provided with shipment of the contractual and/or drawing directed tests and/or inspections. This does not include special processes.

- Review all paperwork/shipping documentation for data/results, Examples, DD-250, DD-1149, CofC, ATP, Travelers etc.

3.4 EMS-04–Evidence of Compliance with Configuration Requirements

Description:
Supplier shall provide evidence of compliance with configuration of requirements.

This does not apply to single part configurations. Part configurations are of different part dimensional characteristics. Drawing configurations apply to assemblies made up of multiple sub-assemblies.

Supplier Key Requirements:

- Supplier shall attach to each packing sheet an inspection configuration sign-off sheet.

- When units of different configuration are shipped together, separate packing sheets and separate configuration sign-off sheets shall be prepared for each group of parts having different configuration. Each group shall be clearly marked so that it may be properly identified to the applicable packing sheet and inspection configuration sign-off sheet.

- This does not apply to single part configurations. Part configurations are of different part dimensional characteristics. Drawing configurations apply to assemblies made up of multiple sub-assemblies.

Supplier Key Deliverables:
- Sign-off sheet shall list all of the drawing numbers applicable to the parts being shipped list:
  - Drawing numbers applicable to the parts being shipped
  - Drawing change letters (revision)
  - Applicable engineering orders to which detail parts, subassemblies (e.g. engineering change order number)
  - Seller's name and address, date, PO, item number, and evidence of inspection sign-off

EMS Receive/Audit/Induct Inspection:
- Review documentation for the information provided:
  - Drawing numbers applicable to the parts being shipped
  - Drawing change letters (revision)
  - Applicable engineering orders to which detail parts, subassemblies (e.g. engineering change order number)
  - Seller's name and address, date, PO, item number, and evidence of inspection sign-off

- When different configurations are shipped together inspect each group for separate configuration sheets.

3.5 EMS-05–First Article Inspection witnessed by EMS

Description:
Scheduling and performing First Article Inspection at the Supplier facility.

Supplier Key Requirements:
- Schedule and Perform FAI per AS9102 and EMS-QMS-I-308, *Safran EMS – AS/EN9102 Electronic FAIR Submittal*, for EMS to witness at the supplier's facility.

Supplier Key Deliverables:
- First Article Inspection Report per AS9102 and EMS-QMS-I-308, signed by authorized EMS witness.

EMS Receive/Audit/Induct Inspection:
No deliverable requirement.

3.6 EMS-06–First Article Inspection (FAI) - RETIRED

3.7 EMS-07–Evidence of Mercury Exclusion – RETIRED

3.8 EMS-08–Selective Government Evaluation - RETIRED

3.9 EMS-09–Material Certification Identified to Specific Lots

Description:

Provide Material Certification.

Supplier Key Requirements:
- When the applicable specification(s) establishes requirements for chemical and/or physical properties, the supplier shall include with the packing sheet for each lot in each shipment, material certifications which provide evidence that the materials shipped possess the chemical and/or physical properties required by the applicable specifications. Supplier shall maintain quantitative evidence that materials shipped possess the chemical and/or physical properties required to meet applicable specifications and provide to Safran EMS upon request.

Supplier Key Deliverables:
- Provide Material Certification with the following:
  - manufacturer's name
  - manufacturer's part number
  - buyer's purchase order number
  - Certification of conformance to Physical/Chemical base material requirements

EMS Receive/Audit/Induct Inspection:

Review for:
- Material Certification with the following:
  - manufacturer's name
  - manufacturer's part number
  - buyer's purchase order number
  - Certification of conformance to Physical/Chemical base material requirements

  Note: not applicable to Commercial off the shelf material.

3.10 EMS-10– Material Specimen Required–Fabrication/Machined Parts

Description:
This code is used when a representative sample of the article material is required to be submitted to Safran EMS along with the articles.

Supplier Key Requirements:
- Articles fabricated from sheet metal or non-metallic sheet material shall include a specimen approximately four inches long and one-inch-wide, (4" X 1").

- Articles fabricated from bar stock or extrusion one half inch, (1/2"), in diameter or less, shall include a specimen approximately two inches, (2"), in length. Articles fabricated from bar stock or extrusion of approximately one inch, (1"), in diameter or greater shall include a

specimen one inch, (1"), in length.

- Suppliers who maintain articles in inventory for which no samples are available shall include an additional item.

- Supplier to retain the samples for a minimum of 7 years. Samples must be available for examination within 24 hours of request.

Supplier Key Deliverable:
- A representative sample of the article material. The seller shall include in each shipment to Safran EMS, a specimen of the actual material from which the articles were manufactured. The specimen shall be furnished by the first tier supplier.

- Note: If the article consists of two or more dissimilar metals, one (1) coupon of each material is required.

EMS Receive/Audit/Induct Inspection:
- A representative sample of the article material.

3.11 EMS-11–Devices Incorporated into Comsec Equipment

Description:
Supplier agreements and evidence that Devices Incorporated into COMSEC Equipment are per requirement.

Supplier Key Requirements:
- All devices identified with a NSA part number (0NXXXXXX) must be manufactured and tested at the Supplier's facility located within the continental United States.

- Supplier shall include this clause without change in all procurement documents he may let pursuant to this PO for all assemblies, accessories, and/or piece parts.

- If an "Off-Shore" procurement is anticipated, the Supplier agrees to notify the Safran EMS and obtain written authority to procure prior to any activity relating to this PO.

Supplier Key Deliverables:
- To assure acceptance of Supplier's material at EMS facility, the following certification must be completed and attached to the Supplier's shipping documentation:

Safran EMS purchase order number_____
NSA part number_____
Seller's Name_____
Seller's street address_____

Seller's city, state, zip_____

Note: This is to certify that the supplies furnished under the aforementioned Safran EMS purchase order have not been manufactured and/or tested outside the continental United States.

Seller's Quality Manager_____

Date certified_____

EMS Receive/Audit/Induct Inspection:
Verify Certificate has been provided with the information stated in Supplier Key Deliverable section.

3.12 EMS-12–Quality Assurance Provision for JTIDS CREN

Description:
This Provision describes supplemental requirements for assuring optimum corrosion resistance of Corrosion Resistant Electro less Nickel (CREN) over various aluminum alloys for Safran EMS specification 952-0766-001 or GEC-Marconi specification R056A201.

Supplier Key Requirements:

a. Wrought Material
Surface roughness inspection of wrought material shall assure that measurements include tool chatter and surface interruptions caused by deburring/handling and by mechanical or chemical finishing but exclude cutter mismatch, sheared surfaces and die marks. Outside bend radii may exhibit "orange peel" deformation but not cracks or crack-like characteristics typically caused by bending stress applied to sanding or grinding grooves.

Surface roughness inspection of wrought material when used as an alternative to cast material may be evaluated by the cast material techniques as described herein for those surfaces which would have been “as cast” when plated. Maximum surface roughness shall be interpreted in accordance with the requirements of the casting drawing.

b. Cast Material
Unless otherwise specified (uos), castings which have surface texture described in accordance with ANSI/ASME Y14.36 and/or ANSI/ASME B46.1 shall be evaluated with C-9 cast micro finish comparator (available from GAR Electroforming, Danbury, CT). Casting surfaces are to be compared to the applicable C-9 scale by visual and tactile (touch) methods. Tactile evaluation shall be performed by comparing the feel of a fingernail drawn across the cast surface and the applicable C-9 scale. For 250 microinches cast surfaces, a minimum of 80% of the total surface shall not exceed the 200 scale and the remainder shall not exceed the 300 scale. For cast surfaces of 125 but

less than 250 microinches, a minimum of 80% of the total cast surface shall not exceed the 120 scale and the remainder shall not exceed the 200 scale except 5% of the total surface may equal the 300 scale. For cast surfaces of 60 but less than 125 microinches, 100% shall not exceed the 60 scale. For cast surfaces less than 60 microinches, a profilometer shall be used to determine acceptance. Uos, tool witness marks shall be excluded from surface texture measurements but gate/riser removal areas shall be included. Uos, machined surfaces of castings may be measured with instruments; however, exposed anomalies are excluded to the extent permitted by applicable casting soundness specifications. Uos, if plating is not specified at the casting drawing level, cast surface roughness requirements must be met at the casting level but may be subject to audit by Buyer after plating.

c. Brazed Material
Brazed assemblies must have complete fill at all brazed joints. Repair by welding IAW SAE AMS-STD-2219 or torch brazing after dip brazing is permitted provided the joint area is machined flush/smooth after repair and, uos, all heat treatment requirements are met.

d. Cleanliness
All surfaces which are to be CREN plated shall be free of contaminants such as brass, steel, silicone or waxes which could be introduced during deburring, polishing or other processing.

e. Plating
CREN plating shall be performed only by these EMS-approved processors listed:

Cooperative Plating Co.	St. Paul, MN 55104
Epner Technology, Inc.	Brooklyn, NY 11222
Incertec (formerly Spec Plating, Inc.)	Minneapolis, MN 55432
Pioneer Metal Finishing	Green Bay, WI 54304

Safran Electronics & Defense Avionics Fabrication Cedar Rapids, IA 52498

SELLER shall submit with each shipment copies of applicable process certifications from the CREN processor.

Plating performed by the following processor is acceptable with Certificates of Conformance within the dates listed:

Electrolurgy, Inc. Irvine CA 92714 Feb 1993 – March 1999

	Jul 2000 – July 2013
Professional Plating Inc. Anoka, MN 55303	Apr 1993 thru Jan 2013
Reinewald Plating Co. Chicago IL 60613	Jun 1993 thru Mar 2001
Technical Plating, Inc. Brooklyn Park MN	Apr 1993 thru Dec 2000

f. Flowdown
Seller shall impose the requirements of this provision on any subcontracted work under this PO.

Supplier Key Deliverables:
- Material that is compliant with the above requirements a-f.

EMS Receive/Audit/Induct Inspection:

- Material that is compliant to acceptance criteria in EMS-QMS-I-501.
- Review of CofC for plating ensure the supplier has used an appropriate/approved plater as listed in step (e).

3.13 EMS-13–Documentation Submission – RETIRED

3.14 EMS-14–Certificate of Conformance–General

Description:
Providing a General Certificate of Conformance.

Supplier Key Requirements:
- Provide a completed, signed copy of certificate of conformance with the information posted in Supplier Key Deliverables.
- A completed copy of this certificate or copies of processor certificates accompanying each (material) order and also provided along with any First Article Inspection Report.

CERTIFICATION

Seller certifies that the product delivered is in accordance with, and conforms to, all Buyer applicable requirements and specifications.

- Safran Electronics & Defense Avionics _____
- Safran Electronics & Defense Avionics _____
- Revision Level _____
- Number of items in shipment

_____ _____
Quality Manager

_____
Seller's Name

_____
Seller's street address

_____
City, State, Zip Code.

_____
Date

EMS Receive/Audit/Induct Inspection:
- Review for Certificate of Conformance providing information required by deliverable.

3.15 EMS-15–Certificate of Conformance to Purchase Order Requirements - RETIRED

3.16 EMS-16–Direct Ship Authority - RETIRED

3.17 EMS-17–Delegation of Major Inspection Authority

Description:
This supplier has been granted delegation of Major Authority

Supplier Key Requirements:
- Supplier has been delegated major inspection authority. Seller is responsible for all inspections and tests necessary to assure performance to specifications. Supplier shall be fully compliant with EMS-9000, *Safran EMS Quality Assurance Requirements for Suppliers*. Title 14 Code of Federal Regulations Part 21 is applicable.
- Material compliant to EMS-9000 and Title 14 Code of Federal Regulation Part 21.

EMS Receive/Audit/Induct Inspection:
- No requirement other than inspection per EMS-QMS-I-501

3.18 EMS-18–AS/EN 9100 Requirement Flow down - RETIRED

3.19 EMS-19–Advanced Supplier Quality System Requirements - RETIRED

3.20 EMS-20–Tailored Provision - RETIRED

3.21 EMS-21–Foreign Object Debris/Damage Prevention -RETIRED

3.22 EMS-22–Moisture Sensitive Devices

Description:
Packaging and identification of Moisture Sensitive Devices.

Supplier Key Requirements:

- Microelectronic devices which have been classified with a moisture/reflow sensitivity level by the device manufacturer shall be dry packaged and identified in accordance with the requirements presented in EIA/JEDC Publication Symbol and Labels for Moisture Sensitive Devices (EIA/JEP113-A).

- Moisture/reflow sensitive devices which are redry packaged by a distributor shall not exceed the maximum specified conditions for both humidity and temperature, and out of bag time prior to being resealed. These devices shall be packaged and identified in accordance with the requirements presented in EIA/JEDC Publication Symbol and Labels for Moisture Sensitive Devices (EIA/JEP113-A), with the initial manufacturers seal date and the distributors reseal date indicated.

- The unit container packing for all microelectronic devices shall be in accordance with the Guidelines and Labeling of Integrated Circuits in Unit Container Packaging (EIA/JEP130).

Supplier Key Deliverables:

- For Moisture/reflow sensitive devices insure that the initial manufacturers seal date and the distributors reseal date are indicated.

EMS Receive/Audit/Induct Inspection:

Verify:

- That Microelectronic devices classified with a moisture/reflow sensitivity level by the device manufacturer are dry packaged and identified in accordance with EIA/JEDC Publication Symbol and Labels for Moisture Sensitive Devices (EIA/JEP113-A).
- That Moisture/Reflow sensitive devices are packaged and identified in accordance with EIA/JEDC Publication Symbol and Labels for Moisture Sensitive Devices (EIA/JEP113-A), with the initial manufacturers seal date and the distributors reseal date indicated.
- That all microelectronic devices are in accordance with the Guidelines and Labeling of Integrated Circuits in Unit Container Packaging (EIA/JEP130).

3.23 EMS-23–Packaging Material for Soldered surfaces

Description:
Packaging instruction for Rigid/flex printed wiring boards, assemblies/sub-assemblies, solderable components/wire.

Supplier Key Requirements:

- Rigid/flex printed wiring boards, assemblies/sub-assemblies, solderable components/wire shall be packaged in containers, bags and cushioning materials that does not introduce gases or chemicals which are detrimental to the item or its solderability. Materials used to tape and reel components shall not detrimentally affect the solderability of surfaces to be subsequently soldered.

Supplier Key Deliverables:

- N/A

EMS Receive/Audit/Induct Inspection:

Verify:

- That packaging does not introduce gases or chemicals which are detrimental to the item or its solderability.
- That Materials used to tape and reel components do not detrimentally affect the solderability of surfaces to be subsequently soldered.

3.24 EMS-24–Limited Shelf Life Materials

Description:
Handling of Limited Shelf Life Materials by Suppliers.

Supplier Key Requirements:

- The supplier shall identify all materials and articles which have definite characteristics of quality degradation with age and/or environment. The supplier shall identify the date useful life was initiated and the date and/or cycle at which the useful life will be expended. *A minimum of 75% of the applicable material/article shelf life shall remain upon receipt of the material by Safran EMS* or the material/article shall be subject to rejection and return to the suppliers

Supplier Key Deliverables:

- Affixed information directly on the material container, noted in the CofC and if applicable marked on the article.
- When environment is a factor in determining useful life, the identification shall include the storage conditions (e.g., temperature, humidity, etc.) required to achieve the stated life.

EMS Receive/Audit/Induct Inspection:
Verify the shelf life has 75% of applicable material/article shelf life per the Certification of Conformance and label affixed on container and/or article.

3.25 EMS-25–Gold Plated Finishes

Description:
Guidance for suppliers on gold plated finishes.

Supplier Key Requirements:

- Electrical component piece parts with Gold plated finish on the to-be-soldered areas of the leads, pins, or terminals, shall not be delivered against this purchase order, except for solder cup contacts.
- For surface mounted parts, the gold shall be removed from at least 95% of the total gold plated surface and there shall be no gold on the to-be soldered areas of the part.

Supplier Key Deliverable:

- Upon receipt at Safran EMS, materials shall be compliant with the solderability requirements of the latest revision of:

  a. MIL-STD-750, METHOD 2026 for Semiconductors
  b. MIL-STD-883, METHOD 2003 for Microelectronics
  c. MIL-STD-202, METHOD 208 for all other parts not listed above

- Upon receipt, RAI reviews CofC for stated compliance by supplier verifying compliance in removal of gold plated finish on the to be soldered areas of leads, pins, and terminals.

3.26 EMS-26–Legacy COTS Inspection System - RETIRED

3.27 EMS-27–Legacy Build-To-Print Quality Management System - RETIRED

3.28 EMS-28–First Article Inspection (FAI)

Description:
First Article Inspection Report per AS/EN9102 and Safran Electronics & Defense Avionics EMS- QMS-I-308.

Supplier Key Requirements:

- Provide a First Article Inspection Report in accordance with – *AS/EN9102* and EMS-QMS-I-308, *Safran Electronics & Defense Avionics – AS/EN9102 Electronic FAIR Submittal*.

- Note: If you the supplier feel the FAI requirement has been satisfied already, you must contact the buyer to verify and have the requirement removed.

- FAIR must be submitted to Safran EMS prior to shipment of material to any Safran EMS facility.

- Failure to provide the FAIR prior to receipt of material may result in the issuance of Supplier Corrective Action Request.

- Note: Any non-conformance found in the FAIR:
  a) Will result in FAIR and Material rejection until a conforming AS/EN9102 FAIR is completed.

b) Will result in a Defect Occurrence charged to the supplier.
c) Will impact the supplier's performance metrics.
d) May result in request for Supplier Corrective Action.

Supplier Key Deliverable:

- First Article Inspection Report documentation submitted to Safran EMS in electronic format. Access submittal instructions by logging on to www.supplycollins.com: > Supplier Portal Index > Quality > First Article Inspection (FAI) Forms. Refer to *Safran Electronics& Defense Avionics – AS/EN9102 Electronic FAIR Submittal*, EMS-QMS-I-308.

EMS Receive/Audit/Induct Inspection:

- First Article Inspection Report, submitted via Safran EMS Supplier portal prior to deliver of material to one of Safran EMS facilities.
- Verify First Article Inspection Report via EMS-QMS-I-310, *Verification of Purchased Material First Article Inspection Reports*.

3.29 EMS-29–Qualification of Foundry Control Processes – RETIRED

3.30 EMS-30–Approved Special Processors - Utilize Nadcap Accreditation

Description:
Describes to supplier to use approved special processors (Nadcap Accreditation).

Supplier Key Requirements:

- Special processes are identified in EMS-9000 (074-8432-119) and those identified as such shall utilize Nadcap accredited processes as applicable.

- Suppliers shall access website (Nadcap Qualified Manufacturer Listing Website: http://www.eauditnet.com) to identify Nadcap accredited sources.

Supplier Key Deliverables:

- Special process certification exhibiting NADCAP accredited processes were used.

EMS Receive/Audit/Induct Inspection:

- Verify certificate of conformance for the special process list NADCAP accredited processes were used.

- If CofC is not conspicuously marked, verify supplier of special process is NADCAP accredited via website http://www.eauditnet.com

3.31 EMS-31–Traceability

Description:
Traceability – Should be used in conjunction with EMS-09 and EMS-35.

Supplier Key Requirements:
- Traceability applies to this order when specified by applicable specification number. Traceability of materials to Safran EMS shall be established and maintained from raw material to delivery of the item. The traceability shall be documented. Methods of traceability are:

    1. Serialization: The supplier shall identify items using marking methods as required by drawings, specifications, and/or the Purchase Order. Serialization logs shall be maintained to prevent duplication of serial numbers. The supplier's quality system shall ensure traceability of all serialized items and materials to the original materials. When two or more serialized parts are joined in an assembly, the supplier shall include a list for each assembly serial number with the part numbers, change letters and component serial numbers making up the assembly serial number. This information shall be supplied with each shipment.

    2. Traceability/Lot Control: Items and material used must be identifiable by lot number (a "lot" shall be defined as the units of product of a single type, grade, class, size, or composition manufactured under essentially the same conditions, at the same time, and submitted for inspection as a group). Material type, specification and applicable change letter or number, heat number, etc., must be traceable to records of acceptance. Part(s) fabricated by the supplier shall be identifiable to the lot of material used.

- The supplier must maintain traceability for material that has been supplied by Safran EMS. Supplier's quality system shall ensure traceability of Safran EMS lot numbering, and/or assembly serial numbering, change letters and component serial numbering system.

- The supplier is required to identify each individual unit/item of material delivered to Safran EMS with a unique identifying number (serial number). This number shall be sequential and shall not be repeated within a part number grouping.

Supplier Key Deliverables:
- All packages shall be identified with:

    a. Purchase Order number
    b. Safran EMS part number and/or manufacturer's part number
    c. Quantity
    d. Serial number (when applicable)
    e. Lot number (when applicable)
    f. Cure date, Age sensitive material (when applicable)
    g. Static sensitive warning (when applicable)

EMS Receive/Audit/Induct Inspection:

- All documentation should be reviewed to ensure linkage back to purchased raw material (made from what is on drawing, i.e. 6061 aluminum) by purchase order number, lot number, job number, or work order, etc.

3.32 EMS-32–Sampling Plans - RETIRED

3.33 EMS-33–Variation Management Program

Description:
Supplier Guidance on Variation Management Program.

Supplier Key Requirements:

- Devices having one or more characteristics defined on the drawing as "Critical" or "Key" or by the symbol "KC" (Key Characteristic) on the Safran EMS drawing, shall be inspected and or tested IAW Safran EMS specification 839-8031-001, Inspection/Test of Key Characteristics of Component .

Supplier Key Deliverable:

- Characteristic data shall be recorded on Form 074-8432-999, Supplier Advanced Quality System KC Summary and Detail Sheet per 839-8031-001 requirements .

EMS Receive/Audit/Induct Inspection:

- Review Form 074-8432-999, Supplier Advanced Quality System KC Summary and Detail Sheet per 839-8031-001 requirements.

3.34 EMS-34–Tensile Strength Test is Required - RETIRED

3.35 EMS-35–Certifications for Special Processes

Description:
Certain manufacturing processes whose quality characteristics cannot be completely determined by non-destructive measurement and tests are classified as Special Processes.

Supplier Key Requirements:

- In addition to the standard CofC, the supplier shall provide certification and/or reports for all special processes (either in EMS9000 or not) and non-destructive tests indicated by drawing.

- All certifications and/or reports shall reflect the latest revision of all Military Specifications and all Standards. Refer to EMS9000 (074-8432-
  119) cancellation clause for exceptions.

Supplier Key Deliverables:

- Provide certification and/or reports for all special processes indicated by drawing.

EMS Receive/Audit/Induct Inspection:

- Verify certifications for the appropriate special processes are present and match the process and specification designated on the drawing.

- Insure the special process performed were performed to the correct rev, class, type, as defined by drawing and/or cancellation clause in EMS9000.

3.36 EMS-36–Static Sensitive Materials

Description:
Guidance to supplier for static sensitive materials.

Supplier Key Requirements:

- Requirements apply to materials, devices or assemblies capable of being degraded, damaged or destroyed by static electrical charges or discharges. All items shall be preserved, packaged and stored in such a manner as to preclude their exposure to the generation or discharge of static electrical potential.

Supplier Key Deliverable:

- Packaging (including unit, intermediate and shipping containers) shall be clearly marked or labeled to indicate that the contents are subject to damage or degradation by static electricity.

- Special handling procedures which define precautions to be observed during shipping, receipt, inspection, storage and installation shall be included with each shipment. Marking or labeling shall indicate the presence and location of these procedures.

EMS Receive/Audit/Induct Inspection:

- Upon receipt, RAI reviews the requirements of the stated EMS Code verifying supplier compliance to ESD approved packaging based on material master requirements.

3.37 EMS-37–Notifications of Changes to Work

Description:
Notifications of Changes to Work.

Supplier Key Requirements:

- Supplier shall make no changes to Work under this Purchase Order or Contract including any change in design, manufacturing process, materials, etc., without prior notification and approval to Safran Electronics & Defense Avionics per EMS-9000 (074-8432-119)

"Supplier-Initiated Changes".

- A notification shall consist of detailed change plan to include: drawings clearly defining the changes, date changes are proposed to be effective and a risk mitigation plan.

- Such notification shall not constitute approval of the proposed change nor relieve the Supplier of the obligation to comply with requirements contained in the Purchase Order or Contract. If the proposed change is approved, the change approval shall be documented.

- Per EMS9000 "Requirements Flow down" supplier shall flow to sub-tier Special Process suppliers that there can be no changes in their special processes without notification and approval via this notification process.

Supplier Key Deliverables:
- For any changes requested, supplier must provide proposed changes to include a change plan that details out drawings with clearly defined changes, date these changes are proposed to be effective, and a risk mitigation plan.

EMS Receive/Audit/Induct Inspection:
- No deliverable requirement for RAI.

3.38 EMS-38–Re-submittal of Rejected Items

Description:
Submittal of Rejected Items returned on Sub Contract Purchase Orders PO code must be entered as header text.

Supplier Key Requirements:
- All items rejected by Safran EMS and subsequently resubmitted by the vendor, shall be segregated and identified as resubmitted lot(s). The shipping document must reference the Safran EMS delivery document.

Supplier Key Deliverables:
- Required documentation per purchase order.

EMS Receive/Audit/Induct Inspection:
- No deliverable requirement for RAI, just normal Audit.

3.39 EMS-39-Enviromental Test Data - RETIRED

3.40 EMS-40–Coating Scan Requirements –

Description:
Requiring the supplier to provide coating scans.

Supplier Key Requirements:
- Coating transmission and/or reflectance scans shall be submitted for each coating run. The scans shall be representative of the components in the shipment and shall be identified with coating run number, and the angle of incidence.

Supplier Key Deliverable:
- Deliver to Safran EMS Coating transmission and/or reflectance scans representative of the components in the shipment with coating run number, and the angle of incidence.

EMS Receive/Audit/Induct Inspection:
- Audit for the Coating Transmission and/or reflectance scans provided by the supplier for each coating run.

3.41 EMS-41–Certificate of Conformance by Manufacturer -RETIRED

3.42 EMS-42 Value Add Services Required

Description:
Supplier direction to provide Value Added Services.

Supplier Key Requirements:
- Material requires modifications or services in order to be compliant. Please refer to the Safran EMS Component Specification, obtained through the Safran EMS Supplier Portal, for details of the requirements.

Supplier Key Deliverable:
- Deliver to Safran EMS functional top level component part with required value add services complete and subject to AS9100/9102 requirements.

EMS Receive/Audit/Induct Inspection:
- Currently there is No action required by RAI other than review of suppliers documented Certificate of Conformance and packing slip.

3.43 EMS-43 - Parker Aerospace Approved Special Processors – RETIRED

3.44 EMS-44 – Utilize EMS-OPS-I-023, *Interpreting PWB Drawings Recorded in the Engineering Compiler System (ECS)*

Description:
Utilize EMS-OPS-I-023, *Interpreting PWB Drawings Recorded in the Engineering Compiler System (ECS)*.

Supplier Key Requirements:
- Engineering Compiler System (ECS) Process Fabrication Requirements. (ECS Printed wiring board drawing is a text report indicating not only

PWB fabrication requirements but also assembly level requirements and design activities may be included in the report.

- For these identified legacy design materials, Supplier is provided a copy of EMS-OPS-I-023 by Procurement or Component Application Engineering (CAE). Supplier reviews requirements and submits technical questions to procurement representative who then passes information on to CAE clarification.

- Note: This EMS-Code is used predominantly on Safran EMS legacy PWB materials designed prior to 1980 (estimated).

Supplier Key Deliverable:
- First Article Inspection Report (FAIR) shall indicate materials are compliant to EMS-OPS-I-023.

EMS Receive/Audit/Induct Inspection:
- No requirement by RAI.

3.45 EMS-45 – 100% Inspection or Loss of Life Designations

Description:
Provides guidance to supplier how to inspect/record those characteristics that are designated as 100% inspection and/or Loss of Life.

Supplier Key Requirements:
- Supplier shall validate all characteristics annotated Loss of Life or 100% inspection design characteristics within the drawings for the entire production lot and record results in accordance with Specification 839-8031.

- Supplier shall maintain this quality record for review 7 years from the date when inspection was performed.

Supplier Key Deliverables:
- A copy of the Inspection Results Report shall be provided with each delivery.

EMS Receive/Audit/Induct Inspection:

- Review for provided Inspection/measured results on all 100% and/or Loss of Life design characteristics.

  - Verify these have been provided in full
  - Verify the measurements provided meet drawing tolerances
  - Store results with shipping paper package

3.46 EMS-46 – Requirement for Advanced Product Quality Plan (APQP) and Production Part Approval Process (PPAP)

Description: The International Aerospace Quality Group (IAQG) has released the Aerospace Standard AS9145. This is a five-phase approach starting with 1. Planning, 2. Product Design and Development, 3. Process Design and Development, 4. Product and Process Validation, 5. Production. The Primary output of the APQP is the Production Part Approval Process (PPAP), which is a submission of time-phased documentation that is agreed upon by EMS Supply Chain Quality Team Member and the Supplier. This methodology may also be used to satisfy other customer contractual requirements for variation management flow down (example: Airbus GRESS or ASR). The AS9145 Standard is available at: http://www.sae.org/technical/standards/AS9145

The standard will cover Build to Print, Build to Specification, and Subcontracted suppliers (QMS=3 or 4).

Supplier Key Requirements:
Supplier will develop and execute a time phased plan that will satisfy the need for tangible evidence that the agreed upon PPAP elements are completed. Artifacts supporting the agreed upon elements will be based on those found in IAQG Aerospace APQP Manual (AS9145) and the IAQG Supply Chain Management Handbook. (http://www.sae.org/scmh/)

Examples of the documentation required for PPAP may include:

- Design Records and BOM (PDR/CDR Documents)
- Design Risk Analysis (DFMEA or other)
- Process Flow Diagrams
- Process FMEA
- Control Plans
- Measurement System Analysis
- Initial Process Capability Studies
- Material Handling and Packaging Plans
- FAIR
- Any customer Specific PPAP Requirements
- PPAP Approval Form

The requirement for the PPAP documentation to be completed will coincide with the Safran EMS acceptance into production. Parts delivered for Prototype, Engineering Samples, or Qualification Parts do not require that the documentation is complete.

If the supplier has a demonstrated APQP/PPAP process it may, with agreement of the SCQE, use their process and/or formats.

Note: Documentation of the evidence that is reviewed for the submission for the PPAP and the PPAP Approval Form will be stored in accordance with EMS9000 section 2.3.

Supplier Key Deliverable:
The supplier shall review with the SCQE all of the agreed upon evidence

documenting completion of the PPAP. If the documentation contains proprietary information (work instructions, processes, etc.) the review of the documentation may be held at the supplier's site.

AS9145 Appendix D PPAP Approval Form or equivalent signed and dated by the supplier quality representative and the SCQE prior to submission.

- Signed PPAP Approval form shall be emailed to cognizant SCQE for storage.

EMS Receive/Audit/Induct Inspection:
Review folder notes for SCQEs comments regarding the PPAP.

1. PPAP approval and submission is not required. Action Required by RAI: Perform standard process per EMS-QMS-I-501.
2. PPAP Interim Approval has been granted. Action Required by RAI: Perform standard process per EMS-QMS-I-501.
3. PPAP has been Approved. Action Required by RAI: Perform standard process per EMS-QMS-I-501.
4. PPAP has been rejected. Action Required by RAI: Reject material to MRB. MRB shall contact the SCQE to amend the folder note.
5. If there is no disposition of the PPAP in the Folder Note. Action Required by RAI: Reject material to MRB. MRB shall contact the SCQE to amend the folder note.

Related Information

Company Procedures

EMS-OPS-P-700 Procurement System Process

EMS-QMS-P-307 Source Inspection

Company Instructions

EMS-OPS-I-023 Interpreting PWB Drawings Recorded in the Engineering Compiler System (ECS)

EMS-QMS-I-308 Safran Electronics & Defense Avionics – AS/EN9102 Electronic FAIR Submittal

EMS-QMS-I-310 Verification of Purchased Material First Article Inspection Reports

EMS-QMS-I-501 Receive, Audit and Induct (RAI)

Other – Iowa and Melbourne Methods

IA-QMS-M-304 Delegation of Major Inspection Authority

MLB-QAL-M-295 Subcontract Supplier Responsibility

Web Addresses:

Safran Electronics & Defense Avionics Supplier Portal
http://www.supplycollins.com

Nadcap Qualified Manufacturer Listing Website: http://www.eauditnet.com

Aerospace Standards

AS/EN9102	Aerospace First Article Inspection Requirement
AS AS9145	Aerospace Series – Requirements for Advanced Product Quality Planning and Production Part Approval Process

American National Standards

ASME Y14.5-2009 Dimensioning and Tolerancing Safran

Electronics & Defense Avionics Processes

580-0798	Supplemental Performance Requirements, Printed Wiring Boards

Standard Forms or Equivalent

074-8432-979	Safran Electronics & Defense Avionics AS9102 FAI