



Quality

Missiles and Fire Control

Detection and Avoidance of Counterfeit Electronic Parts

DFARS 252.246-7008 - The Rest of the Story

Bob Bodemuller

Supply Chain Quality Principal Engineer

LOCKHEED MARTIN





Background

Counterfeit Electronic Parts

The Rest of the Story

- DFARS 252.246-7007 was published in 2014 to incorporate the counterfeit prevention requirements contained in the 2011 NDAA Section 818
- Some elements of the NDAA were not completely covered so a revision to the DFAR was started.
- In Aug. 2018, the revised DFARS 7007 was published but with a surprise. It split out the procurement and traceability requirements (criteria 4 & 5) into a new DFARS 252.246-7008.
- Additionally the new DFARS flow down and application was not constrained in that it was not limited to only CAS covered contractors.



DLA now has a counterfeit prevention requirement for electronics that it can flow down to its supply base.

Senate Armed Services Committee Conclusions

Source of Counterfeit Parts

- **Conclusion 1:** *China is the dominant source country for counterfeit electronic parts that are infiltrating the defense supply chain.*
 - The U.S. Trade Representative (USTR) has said that China’s global manufacturing capacity “extends to all phases of the production and global distribution of counterfeit goods.” The next two largest source countries were the United Kingdom and Canada.
 - Committee identified instances in which both countries served as resale points for suspect counterfeit electronic parts from China.
- **Conclusion 6:** *The defense industry’s reliance on unvetted independent distributors to supply electronic parts for critical military applications results in unacceptable risks to national security and the safety of U.S. military personnel.*



DFAR 252.246-7007 Criteria

System Criteria

1. Training of personnel
 2. Inspection and test
 3. Processes to abolish
 4. Traceability
 5. Procurement controls
 6. Reporting and quarantining
 7. Identification and evaluation of suspect counterfeit
 8. Systems to detect and avoid (e.g. AS5553)
 9. Flow-down
 10. Process to keep informed
 11. Process for screening GIDEP report
 12. Control of obsolete electronic parts
- DFARS 252.246-7008



LEGISLATIVE ACTIONS



Laborer de-soldering circuit boards over a coal-fired grill. Rock in the box is where boards are hit to remove solder. Pliers are used to pluck off chips which go into various buckets. The boards are then tossed into a pile for open burning. © BAN



The discovery of counterfeit electronic components in government supplies prompted legislative action.

Legislative Actions

- **Section 818 of the 2012 NDAA – Passed December 2011**
 - Congressional law inserted into the National Defense Authorization Act Dec 2012
 - Modified in each new NDAA legislation
- **DFARS 252.246-7007 Published May 2014/Revised Aug 2016**
 - Implements section 818
- ★ **DFARS 252.246-7008 – Published Aug 2016**
 - Defines “Trusted Supplier”
 - Requires traceability from OCM to product acceptance by the government
- **DFARS 2016-D010 – Cost of Remedy for Use or Inclusion of Counterfeit Electronic Parts**
 - Amends c)(2)(B) with regard to the allowability of costs of counterfeit electronic parts or suspect counterfeit electronic parts and the cost of rework or corrective action that may be required to remedy the use or inclusion of such parts.
 - Publication 8/30/16



Legislative Actions

- **FAR 2012-032 – Higher Level Quality Contract Requirements**

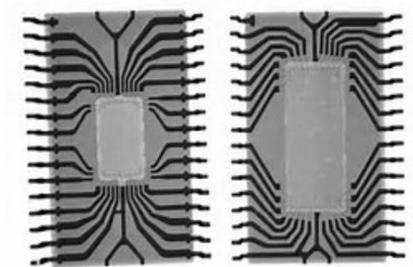
- Effective 12/26/2014
- Clarifies when to use higher-level quality standards in solicitations and contracts and updates the examples of higher-level quality standards by removing obsolete standards and adding new industry standards that pertain to quality assurance for avoidance of counterfeit items.

- **FAR 2013-002 – Expanded Reporting of Nonconforming Items**

- Published 12/23/2019
- Requires contractors and subcontractors to report to the Government-Industry Data Exchange Program (GIDEP) certain counterfeit or suspect counterfeit parts and certain major or critical nonconformances

- **DFARS 2016-D013 – Amendments Related to Sources of Electronic Parts**

- Published 05/04/2018
- Makes contractors and subcontractors subject to approval (as well as review and audit) by appropriate DoD officials when identifying a contractor-approved supplier of electronic parts

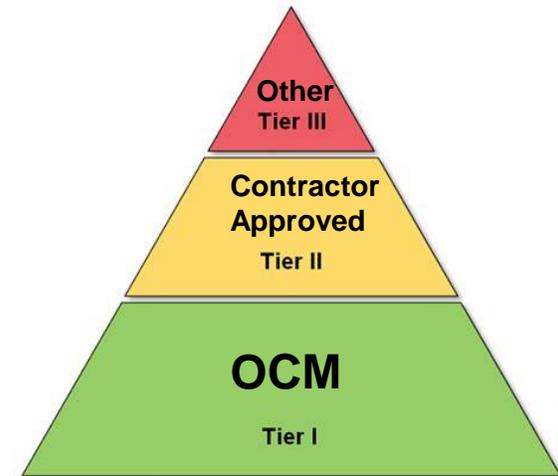


Real or
counterfeit

counterfeit
Real or

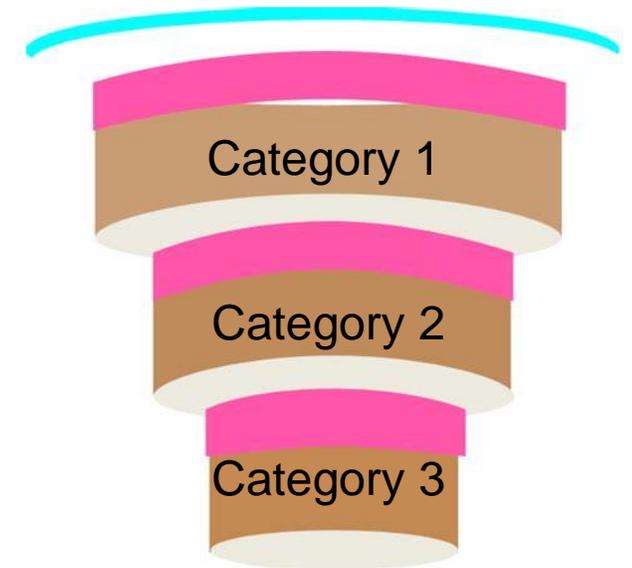
Tiered Approach for Electronic Parts

- Category 1: Electronic parts that are in production **or** currently available in stock.
- Category 2: Electronic parts that are not in production **and** not currently available in stock from a category 1 supplier.
- Category 3:
 - Sources other than a category 1 or 2 as defined above
 - **Electronic parts from a subcontractor (other than the original manufacturer) that refuses to accept flowdown** of DFARS 252.246-7008
 - Cannot confirm that an electronic part is new or not previously used and that it has **not been comingled** in supplier new production or stock with used, refurbished, reclaimed, or **returned** parts.



Tiered Approach for Electronic Part Sources

- Category 1: - normal processes from OCM/OEM/authorized distribution
- Category 2: - identified by the Contractor as contractor-approved suppliers:
 - For identifying and approving such contractor approved suppliers, the **contractor** uses established counterfeit prevention industry standards and processes (including inspection, testing, and authentication)
 - The **contractor** assumes responsibility for the authenticity of parts
 - The selection of such contractor-approved suppliers is subject to review and audit (and approval) by the contracting officer.



Note:

- A category 1 part can only be purchased from a category 1 source without customer approval
- A category 1 part can only be purchased from a category 2 source with customer approval.
- A category 2 part can only be purchased with LM approval

Tiered Approach for Electronic Part Sources

- Category 3: -
 - *Promptly notify the Contracting Officer in writing.*
 - Be responsible for inspection, testing, and authentication, in accordance with existing applicable industry standards
 - Make documentation of inspection, testing, and authentication of such electronic parts available to the Government upon request



Purchases From Government Stock

Contractors and subcontractors are still required to comply with the requirements of paragraphs (b) (supplier selection) and (c) (traceability) of this clause, as applicable, if—

1. Authorized to purchase electronic parts from the Federal Supply Schedule
2. Purchasing electronic parts from suppliers accredited by the Defense Microelectronics Activity; or
3. Requisitioning electronic parts from Government inventory/stock under the authority of 252.251-7000

The Government is responsible for the authenticity of the requisitioned parts.



Traceability/Tracking

If the Contractor is not the original manufacturer of, or authorized supplier for, an electronic part, the Contractor shall—

1. Have risk-based processes (taking into consideration the consequences of failure of an electronic part) that **enable tracking of electronic parts from the original manufacturer to product acceptance by the Government**, whether the electronic part is supplied as a discrete electronic part or is contained in an assembly

“DoD is willing to bear the expense associated with maintaining traceability to the extent feasible in order to improve detection and avoidance of counterfeit parts in the DoD supply chain.”

2. If the Contractor **cannot establish this traceability** from the original manufacturer for a specific electronic part, the contractor is responsible for inspection, testing, and authentication, in accordance with existing applicable industry standards

Traceability/Tracking

3. And maintain documentation of traceability or the inspection, testing, and authentication required when traceability cannot be established in accordance with FAR subpart 4.7;(records retention for 3 years after final payment or more based on the record)
4. Make such documentation available to the Government upon request.

“While DoD acknowledges the burden associated with this requirement and that establishing such traceability does not guarantee the authenticity of all parts, nevertheless DoD considers the costs associated with this burden to be justified in comparison to the harm that can result from introduction of counterfeit parts into the DoD supply chain.”

Flow Down

- The Contractor shall include the substance of this clause, including this paragraph (e), in subcontracts, **including subcontracts for commercial items that are for electronic parts or assemblies containing electronic parts**, unless the subcontractor is the original manufacturer.

246.870-3 Contract clauses

Use the clause at 252.246-7008, Sources of Electronic Parts, in solicitations and contracts, including solicitations and contracts using FAR part 12 (Acquisition of Commercial Items) **procedures for the acquisition of commercial items, when procuring** —

- (1) Electronic parts;
- (2) End items, components, parts, or assemblies containing electronic parts; or
- (3) Services, if the contractor will supply electronic parts or components, parts, or assemblies containing electronic parts as part of the service.



Definitions Revisions

- **Authorized supplier** - a supplier, distributor, or an aftermarket manufacturer with a contractual arrangement with, or the express written authority of, the original manufacturer or current design activity to buy, stock, repackage, sell, or distribute the part.
- Added definitions for:
 - “authorized aftermarket manufacturer”
 - “contract manufacturer”
 - “*contractor-approved supplier*”
 - “original component manufacturer”
 - “original equipment manufacturer”
 - “original manufacturer”



QUESTIONS

