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Industry Assessment

Awareness and Industry Efforts to Combat Counterfeits in Aerospace & Military Electronic Component Procurement

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OVERVIEW

Electronic Supply Chain Solutions, Inc. (ESCS) completed an informal industry survey of aerospace and military manufacturing companies to gain a current qualitative perspective on the degree to which counterfeiting of electronic components is perceived to be an issue, and what changes in policies or procedures have been or are being made to combat counterfeits. See Appendix A for a description of the assessment methodology.

The observations presented here are not intended to support or infer quantitative conclusions; but rather to provide a qualitative and subjective assessment of the current industry situation, as seen by facility-level supply chain quality and procurement professionals.⁽¹⁾

Finally, a list of “Implications and Conclusions” is presented from the evaluation of responses, and a list of “Recommendations” is provided reflecting both what is suggested by the assessment as well as ESCS’s own perspective on the industry.

QUESTION TOPICS

Questions included but were not limited to the following:

1. Is counterfeiting of electronic components viewed as a current or potential problem at your facility?
2. Are you aware of any specific instances of your facility having encountered counterfeit components in your supply chain sourcing?
3. Are you aware of any changes to policies or procedures that either have been made or will be made at your facility directly related to reducing the risk of counterfeit electronic components entering your supply chain?
4. Does your company require independent distributors to be quality certified with either ISO 9001 or AS9120?
5. What steps if any does your company take to verify a distributors credentials?

6. Does your company have either a single individual or a team who were or are now specifically tasked with defining and recommending policy or procedure changes to combat counterfeits?

GENERAL OBSERVATIONS

Note that most observations are quantified in general terms of “none”, “a few”, “some”, “most” or “all”, as sample size of the assessment would not make specific quantification meaningful.

- Over half of all facilities had encountered evidence of counterfeit components entering their supply chain.
- Some contract manufacturers were only conceptually aware of counterfeiting as an issue, and have made no specific changes to address the issue.
- Awareness of the issue at the facility level varied widely within most prime contractors. (This reflects in part the specific knowledge of the contact only.)
- All prime contractors had seen evidence of counterfeit electronic components somewhere within their companies, and had either already taken a variety of actions, or had assembled teams to evaluate specific policy or procedure changes.
- Only two prime contractors appeared to have communicated a consistent message and approach across all facilities, however all other prime contractors had evaluation processes still in progress, a few of which have been on-going for over 18 months.
- Virtually all companies have instituted vendor reduction programs, and while cost efficiencies have certainly been the primary motivating factor, the benefit in reduced counterfeit exposure was widely recognized.
- Every major company either had already developed or was in process of developing some sort of corporate policies for supplier qualification and component procurement requirements.
- Many major companies have or are centralizing vendor selection, utilizing company-wide approved vendor lists enforced at all facilities and subsidiary companies.
- Most companies required either original manufacturer certificates of compliance or appropriate testing to validate authenticity. Some companies require their distributors to have appropriate testing done while others do their own in-house testing.
- Surprisingly, none of the companies requiring or requesting their distributors to handle testing insisted that it be done by a 3rd party.

- Many companies require their distributors to be ISO 9001 certified; but surprisingly few aerospace manufacturers require their distributors to be Aerospace 9120 certified.
- Only a few companies mentioned requiring on-site visits or audits of prospective or current distributors.
- Not surprisingly, most companies perceive greater risk in sourcing from independent distributors or brokers than through their franchise distributors.
- A few companies (including one major company) had strict policies prohibiting purchase of any electronic components from non-franchised distributors.

IMPLICATIONS & CONCLUSIONS

- The larger, prime contractors in the industry are addressing the issue with more direct, organizational efforts than are the smaller OEM's and CM's.
- The wide range of awareness levels and diversity of approaches to combat counterfeits suggests the industry has not yet sufficiently evolved to a set of standards that balances risk mitigation with the need for operational effectiveness and efficiency.
- Only a relatively small group of independent electronic component distributors are Aerospace certified to the AS9120 standard. ESCS believes this is in part due to the relative "newness" of the certification (2005), and to the large number of OEM's and CM's not yet requiring their suppliers to become certified.
- A strict policy of sourcing electronic components only from the original manufacturer or franchised distributor may jeopardize project timelines or company flexibility in meeting contract requirements, as well as potentially requiring the customer to go through a costly and time-consuming redesign to eliminate components that may be legitimately available through the independent market.
- Current industry efforts to combat counterfeits should be further coordinated, allowing cross industry information sharing on suspect products, distributor performance and supply chain procurement standards. These current efforts are being led by GIDEP, the Aerospace Industry Association and to a lesser extent by the broker and distributor industry associations, The Electronic Resellers Association (ERAI) and The Independent Distributors of Electronics Association (IDEA). Beyond these specific industry organizations, the U.S. Chamber of Commerce has a meaningful role to play in representing the industry to influence government policy and legislation through the Coalition Against Counterfeiting and Piracy, with government involvement primarily focused through the efforts of the U.S. Department of Commerce's Bureau of Industry and Security.

RECOMMENDATIONS

ESCS supports the above efforts and recommends the following operating policies be adopted by all aerospace and military manufacturers:

- Promote greater awareness of counterfeiting and company policy among supply chain quality and procurement professionals.
- Clearly define company-wide procurement policies related to component sourcing, particularly addressing component pedigree standards, including minimum testing requirements for components lacking a clear path of ownership with original manufacturers' certificates of compliance.
- Actively manage product design to reduce to the degree possible the utilization of end-of-life components, and maintain an active process of component life cycle evaluation
- Centralize supplier evaluation and approval.
- Develop specific, measurable criteria for the selection of independent distributors.⁽²⁾
- Institute an audit program to periodically verify distributor conformance to required quality standards.
- Require vendor contracts for all approved suppliers, specifying the above defined quality criteria and standards of performance.
- Track vendor quality and deliverability performance, and provide that to all suppliers on a periodic basis.
- Ensure organizational responsibility is clearly assigned and periodically assessed for access to and proper internal dissemination of GIDEP alert information on counterfeit components.
- Remain aware of and ideally involved in on-going industry efforts to combat counterfeits.
- Remember this is not a static problem, or one limited to sourcing through independent distributors. On-going vigilance throughout the supply chain is an absolute requirement for the industry.

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Note 1:

This industry assessment provides a perspective on the subject matter from the information gathered and interpreted by Electronic Supply Chain Solutions, Inc., based on the methodology described herein. A strictly quantitative question and answer approach was not taken in order to elicit more revealing yet qualitatively richer responses.

Note 2:

ESCS provides a list of six minimum quality requirements that aerospace and military manufacturers are recommended to adopt as "best practices" in selection and retention of independent distributors. Please contact ESCS for a copy of these standards.

Appendix A – Assessment Methodology

During August and September, 2008, ESCS conducted telephone interviews with 83 individuals from 50 facilities in 31 companies. Initial calls were made to current facility representatives of the Government and Industry Data Exchange Program (GIDEP) from a cross-section of prime contractor and contract manufacturing companies producing products containing electronic components for the aerospace and military markets. The GIDEP representative role is typically assigned to a quality manager or engineer. The GIDEP contact was advised of the call objective, specifically to provide perspective on the issue of electronic component counterfeiting, as information requested by ESCS's President, Matthew Heaphy III in preparation for a keynote speech he delivered on the topic at the 2008 Future Aerospace Congress. All contacts were advised their comments would be included in generalized observations only with no specific individuals, facilities or companies referenced.

Most GIDEP representatives were knowledgeable about the subject and gave their own perspective, and in many cases referred ESCS to procurement managers or other quality professionals either more directly involved in the sourcing of electronic components or involved in development of policies and procedures to combat counterfeits. These follow-up contacts were interviewed in the same manner. Facilities were qualified through initial contact to confirm local production of aerospace or military equipment requiring sourcing of electronic components.