

Setting the International Standard(s) in the

FIGHT AGAINST COUNTERFEITS

A trio of standards from SAE International is creating the foundation for a global response to counterfeit and suspect parts throughout the supply chain

By Editorial Staff

In September 2007 SAE International, the standards development organization, chartered a new committee, dubbed G-19, in response to the continuing – and growing – problem of counterfeit electronic parts entering the supply chain. The objective of the committee was to establish best practices in component management, supplier management, procurement, inspection, test and evaluation methods, and to provide the supply chain with a response on what they should do when they encounter a suspect or counterfeit part.

By April 2009, SAE International released a new standard based on G-19's work, AS5553,

“Counterfeit Electronic Parts; Avoidance, Detection, Mitigation and Disposition.” Just four months later, in August 2009, the U.S. Department of Defense adopted the standard, meaning that it became a flow-down requirement for companies looking to sell into the DoD supply chain, including the world's largest prime contractors in the Aerospace and Defense (A&D) sector.

The speed with which the DoD adopted AS5553 was unprecedented and is very significant, according to

Kristal Snider, SAE G-19 committee member and a co-founder and vice president with of ERAI, Inc., a privately held information services organization that monitors, investigates and reports issues affecting the global electronics supply chain, including supply of electronics, including supply of counterfeit and substandard parts. “It was telling of how serious the issue is, how real the concern is and the significance of the need for a response to the problem [of counterfeits],” says Snider, who plays an active, vocal role on the G-19 committee.

Covering the End-to-End Supply Chain

G-19's work is addressing the counterfeits issue from three different perspectives across the supply chain. AS5553 addresses the OEM/Contract Manufacturer perspective. It provides terms and definitions of suspect and counterfeit parts, and spells out requirements for a counterfeit electronic parts control plan. This plan covers parts availability, purchasing and purchasing information, verification of purchased product, in-process investigation, material control and reporting.

Two additional standards currently

in development will address the Independent Distribution/Franchised Distribution perspective (AS6081, due to be published by the end of this year) and the Testing and Inspection perspective (AS6171). The goal is to be comprehensive and provide mitigation and prevention at all levels of the supply chain. “Hopefully, between these three safety nets, a counterfeit part will be identified and stopped before it makes it into an end application,” Snider says.

Membership in the G-19 committee reflects this end-to-end approach. Members include not only representatives from government agencies and the largest prime contractors to the DoD, but also distributors (including independent and franchised distributors), test labs, experts from the standards community, and industry trade associations like Aerospace Industries Association (AIA), the Component Obsolescence Group (COG), the Independent Distributors of Electronics Association (IDEA), the UK Electronics Alliance (UKEA), and ERAI, Inc..

In addition, even though G-19's work on AS5553 falls under the aegis of SAE Aerospace and the initiative was directed initially at A&D and High Reliability applications, the document is applicable across all sectors of the supply chain, Snider emphasizes. “We want to see this document adopted and readily utilized in all sectors.”

Evolving to Keep Pace with Global Counterfeiting

Snider also notes that the AS5553 standard is not intended to be a static document. The G-19 committee specifically has set up a subgroup G-19 CI – Continuous Improvement that is in the early stages of work on a revision to the standard. “It's a living document that will be constantly evolving and

being improved,” she says.

Feedback that the committee received following the release of AS5553, for example, included suggestions that it comprehensively addressed North-American supply chain, but required modifications to accommodate regional needs of the international community. The goal of the revision is, in part, to ensure that it is applicable across borders.

AS5553 also will benefit from the work being done on AS6081 (targeting Independent Distribution/ Franchised Distribution). It’s important to remember that AS5553 was written from the perspective of a buying organization, while AS6081 is being written from two different perspectives, that of a buying organization as well as that of a selling organization, because distributors do both. In the process of evaluating both processes – the selling and the buying – the committee preparing 6081 has collected a lot of new intelligence about requirements that could be applicable to 5553.

For example, Snider explains that an initial concern in the writing of AS5553 was that it not be too prescriptive. “We didn’t want the requirement section to be so overwhelming that it would be a deterrent for an organization and they would find it to be too onerous to adopt. But what we’ve found is that we do need to be more prescriptive. We need to take some of the materials that were placed in the appendices of AS5553 and move them into the requirements section,” Snider says. As an example, she cites some of the requirements around part inspection that are in AS6081 but that were not included in AS5553 because they were considered too prescriptive. When it came time to write AS6081, though, the feeling was that these requirements needed to be included

in the standard to ensure that it “had enough teeth.”

Elsewhere, the thinking around definitions included within AS5553 continues to evolve, too. Creating definitions was initially a big problem in creating the standard, defining what a counterfeit part is, what a suspect part is. For example, there was a question of whether a part that is used, and that shows no evidence of being altered in any way, shape or form, but that is sold as new, should be classified as a counterfeit part. That

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will likely change in the revision of AS5553, because now the committee has further clarified the difference between a counterfeit part and a used part sold as new. Having these sorts of definitions, Snider says, will be very useful for industry to ensure that all the participants in a supply chain can be “on the same page.”

A Growing Threat

Snider has been involved in the electronics industry for more than two decades, and she has seen the threat posed by counterfeit parts grow from a nuisance to a major concern. “I can remember a time when I was involved in distribution, where you would get a requirement from a customer and you simply couldn’t find the part. You don’t see that anymore. Everything and anything seems to be available – and that’s just not realistic. We know that the counterfeiters have the ability to determine what is obsolete and allocated, and make it readily available.”

She adds that organizations

involved in the electronics supply chain must understand how to use standards like AS5553, AS6081 and AS6171. “The goal is to be comprehensive and provide mitigation and prevention at all levels of the supply chain,” she says. “But it’s important to highlight that we’re measuring risk, we’re not eliminating risk. We know that the counterfeiters are going to continue to hone their skills, and they’re going to continue to get better. That’s why this is going to be an ongoing effort, and why

AS5553 is going to be a living document that is constantly subject to change. You are going to be constantly measuring your risk, and how you do that will change as identification techniques become better.”

As it stands, Snider contends that the three standards documents together offer the best solution for the supply chain to lay a foundation for addressing the counterfeits issue. The Department of Defense is pushing the adoption of the standards down into their supply chains, but companies outside A&D – in automotive, medical devices and even consumer electronics, for example – are recognizing that the risks to brand reputation and, ultimately, sales are too high not to be driving forward with moving toward compliance with the standards. And as more companies look to shrink their supply bases and short-list a select set of reliable suppliers, the competitive advantage of moving more quickly to adopt the standards becomes more apparent. Simply put, given the continued growth in the number of counterfeit incidents, not following what’s prescribed in AS5553, AS6081 and AS6171 is simply not an option in this market. ■