



Department of Energy

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MEMORANDUM FOR DISTRIBUTION

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SUBJECT: Prevention, Identification, and Control of Suspect/Counterfeit
Electronic Components

The issue of Suspect/Counterfeit Items (S/CI), specifically electronic components and integrated circuits, is an increasing problem throughout the nuclear industry. A report prepared by the U. S. Department of Commerce provides detailed information on the extent and nature of the problem with S/CI electronics in the supply chain. This report is available at the following website:

http://www.bis.doc.gov/defenseindustrialbaseprograms/osies/defmarketresearchrpts/final_counterfeit_electronics_report.pdf. It is recommended that Federal staff involved in procurement, engineering, maintenance, and quality assurance (QA) activities review this report. Each of you should also provide this report to your appropriate site contractor(s) for review.

In response to the issue of S/CI electronic components, the Office of Standard and Quality Assurance, EM-23, has been reviewing the practices for control of S/CI across Environmental Management (EM), with particular emphasis on electronic components. As a result of this review, EM-23 has the following initial recommendations for the enhancement of prevention, detection, and control of S/CI counterfeit electronics. These enhancements should be considered for incorporation into the existing S/CI prevention programs that are currently required to be implemented in accordance with Department of Energy Order 414.1C, *Quality Assurance*. These enhancements should be applied using a graded approach with particular emphasis on the procurement of safety class (SC) and safety significant (SS) components. The recommendations related to Prevention, Identification, and Control of S/CI Electronic Components include:

1. Post-receipt inspection and functional testing, by itself, is often ineffective in identifying the presence of S/CI electronic component. An effective means in preventing the introduction of these components into EM facilities is understanding and control of the supply chain. Specifically, EM facilities and projects should:
 - a. Strive for the shortest possible supply chains from the sub-component parts manufacturers to the instrumentation fabricators. Every distributor or other intermediary source added to the supply chain increases the chance for introduction of S/CI components;



It is recommended that each site review the S/CI prevention programs of your site contractor(s) to determine if the programs adequately address the procurement, prevention, and control of S/CI electronic components and address the above recommendations. The issue of S/CI electronic components will be a discussion topic at the next EM QA Corporate Board meeting, which is tentatively scheduled for February 16, 2011, in Oak Ridge, Tennessee.

EM-23 will continue to review the practices used by EM facilities and projects to prevent, identify, and control S/CI electronic components to identify opportunities for improvement and to obtain information to address ongoing inquiries on this topic from the Defense Nuclear Facilities Safety Board. Your cooperation in these reviews may be requested. Also, if you have any lessons-learned regarding S/CI electronic subcomponents encountered at your facilities, please provide those to EM-23 so they may be incorporated into the ongoing efforts in this area.

We look forward to working closely with each site office to address this complex and challenging issue. This partnership between EM Headquarters' and the site offices is a critical part of protecting our facilities and completing our clean up mission.

If you have any further questions, please contact me at (202) 586-5151 or Bob Murray, Director, Office of Standards and Quality Assurance at (202) 582-7267.

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