

Time to Reign-In Berry Amendment/Buy American Act

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October 2006

The Berry Amendment (BA)/Buy American Act (BAA) discussion in Congress is an example of how good intentions can get out of control. The BAA, enacted by Congress in 1933, seeks to protect domestic labor by giving statute preference in most federal procurement to domestically produced, manufactured, or home-grown products, with certain exceptions. The BA, passed by Congress in 1941 overrides many of these exceptions, requires the Department of Defense (and only the DoD) to buy certain products judged essential to our military readiness with 100% U.S. content and labor. These products include clothing, textile items, specialty metals (including titanium), and food.

The intent of the BAA and the BA essentially is to keep American dollars here, keeping our workers employed, our technology base secure and innovative, and our defense infrastructure intact. However, it fails to take a few things into consideration: Some of this technology is already available overseas and some key materials are not available here.

DoD procures huge numbers of electronic systems, from avionics and navigational systems to PCs. The proposed rule for enhanced specialty metal restrictions goes down the supply chain to the specialty metal in the packages and inside the chips. Forcing the military to rely exclusively on domestic suppliers for defense system components would be difficult to enforce. In addition, verifying and certifying that the specialty metal content of an integrated circuit is domestically sourced would add significantly to its cost.

In the chip is a trace amount of titanium -- actually titanium nitride (TiN), but it comes from a pure titanium source. The pending version of the BA will require this titanium be sourced only from the U.S. TiN is used in one of several hundred steps in IC fabrication. Verifying that the source material is domestic is virtually impossible, especially when the chip is manufactured overseas. TiN makes up less than 0.0001% of the total chemical composition of a chip. Does it really make sense to regulate such a small amount? Part and parcel of the regulation is the burden of proof of origin that is imposed upon the semiconductor maker.

If the new proposals for the changes to the BA/BAA proceed, the record-keeping and verification burden would grow enormously. Information that is not gathered today would be required. The end result is a tilting of the playing field to the larger firms that have the resources to perform tracking, which flies in the face of keeping costs down and encouraging innovation.

Imagine buying a COTS device and requiring its manufacturer to provide complete details on all the specialty materials utilized in the IC. The manufacturer cannot provide the information, so rather than contend with this burden, the manufacturer will likely not accept the order.

The minimum specialty metals limit in the revised BA/BAA must be 1 or 2 % of the material in a product, below which tracking need not be performed. There is presently a "de minimus" standard allowing the utilization of small amounts of specialty metals in semiconductors and packaging and this must be retained without traceability.



About the Author

John O'Boyle manages the new business development activity at QP Semiconductor. He also directs strategic planning for the company's mission-critical military/aerospace and high reliability industrial programs. O'Boyle has held strategic marketing positions at Samsung and Tower Semiconductor and was responsible for aspects of the commercial space business at National Semiconductor.

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