



Supporting the Warfighter with Affordable Capability and Innovation

Acquisition Reform Recommendations
for the Fiscal Year 2016 NDAA

February 2015

EXECUTIVE SUMMARY

Acquisition reform that provides more affordable capability through greater innovation is a strategic imperative. Without changes to the current system it will be increasingly difficult for the U.S. military to maintain its technological edge. Our potential adversaries are not constrained by the kind of complex and cumbersome regulations that drive up costs and deter many commercial companies from doing business with the Department of Defense (DOD).

The leadership of the House and Senate Armed Services Committees reached out to all stakeholders seeking recommendations to improve the acquisition process. The Boeing Company appreciates the opportunity to submit proposals that will enable the government to obtain more savings and innovation by accessing the entire industrial base – companies large and small, commercial and defense unique – and by harnessing the power of competition in a global marketplace.

Members of the DOD leadership have all released recently major policy initiatives to invest better in our nation's unrivaled capacity for innovation.

- Secretary Hagel's Innovation Agenda will enhance our military's capability, technological edge, strategy and readiness;
- Deputy Secretary Work launched DOD's third game-changing offset strategy to ensure our technological edge over the next several decades; and
- Better Buying Power 3.0, recently released by Under Secretary Frank Kendall focuses on innovation amongst other acquisition initiatives.

Boeing shares these objectives. As the top exporter in the U.S., Boeing must compete and win globally with the most affordable and innovative products and services. Our supply chain is made up of thousands of companies – most of them commercial, many smaller businesses -- that operate in a fiercely competitive environment that drives innovation and lowers costs.

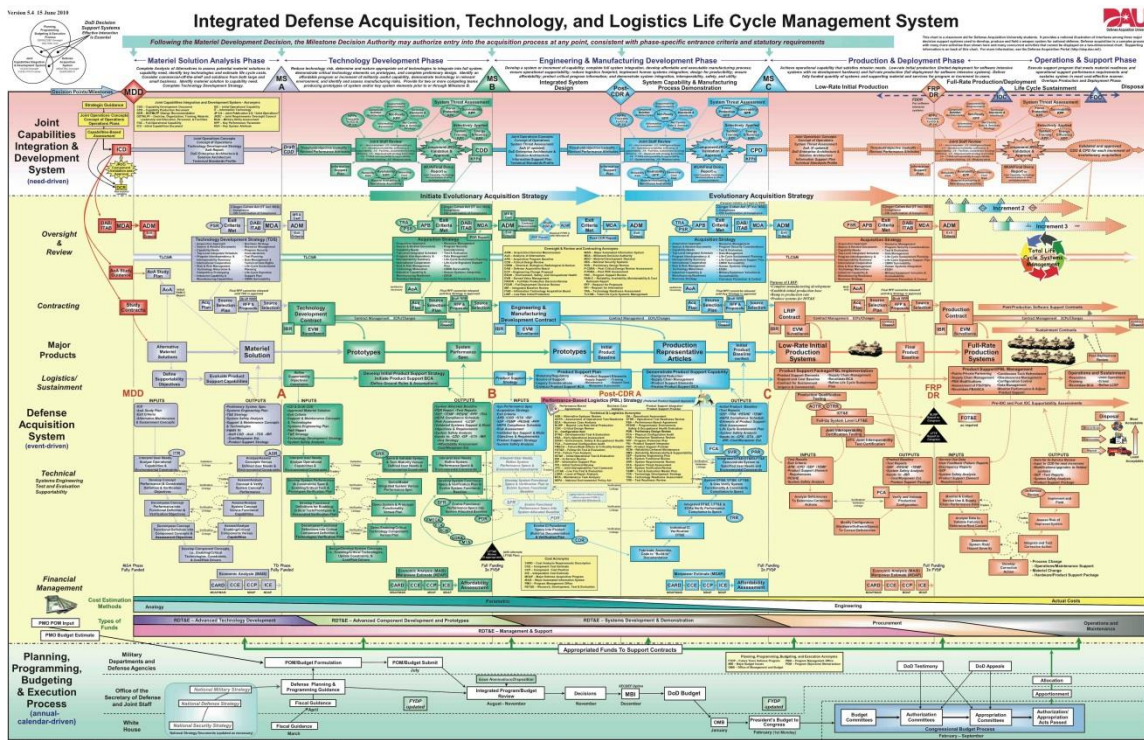
The current acquisition process creates barriers to providing our military customers with the capabilities they need, at the time they are needed, and at an affordable cost. Amid the defense downturn – and with sequestration looming in Fiscal Year 2016 – DOD must find new ways to work with industry to make the most of each scarce investment dollar.

To this end Boeing proposes seven areas for streamlining the acquisition process to be more agile, affordable, and accountable through greater access to commercial technologies and innovation – especially those provided by smaller businesses.

- **Empowering a more innovative workforce.** The first responsibility of the acquisition workforce is, in Under Secretary Kendall's words, "to think." That goal must be supported by a culture that empowers initiative and that values informed, thoughtful decisions. The workforce must be provided with the requisite skills, training and expertise to exercise informed judgment. Judgment in support of delivering technically superior capabilities in the most efficient manner. The workforce must have the flexibility to apply sound principles of acquisition in ways

that can adapt to an environment marked by rapid technological and geo-political change.

- Streamlining the requirements process.** We recommend additional tools and training for DOD's acquisition workforce that increase their knowledge of the commercial marketplace. In particular, emphasizing the importance of speed as a best practice is as important as knowledge when it comes to commercial best practices. This supports affordability and innovation as well as improves development cycle times. Streamlining the process will allow faster validation of requirements and more rapid fielding of the latest technologies.
- Ensuring access to commercial items and services through streamlined acquisition.** Private-sector market forces can reduce costs, improve products, and drive innovation across a commercial company's entire product line. An item that is produced with commercial processes benefits from a broad and diverse supply chain, in particular the creativity and agility provided by small business. For these reasons federal acquisitions law calls for greater use of commercial items. But this guidance has not turned into reality at the working level. We include several recommendations to streamline the process for determining if a good or service should be considered commercial for defense acquisitions purposes. Tools must be provided to the contracting officers that allow them to recognize and document the benefits and value accrued to the government beyond price.



- Protecting intellectual property rights while enabling competition.** A balanced approach must exist to reward contractor R&D investments in innovation, while also enabling government competition with intellectual property rights it has

acquired. For decades, this balance presumed that the company owned the intellectual property rights to commercial items. With falling budgets and fewer new starts, the government is seeking innovation and cost reductions through competition requiring data rights for commercial items beyond those provided in the marketplace. We support these objectives. Getting additional capability depends on incentivizing investment over the life cycle of a product. We recommend repeal of some legislative changes that are making it difficult for commercial suppliers to invest in defense products if such sale risks losing the company's hard-earned property rights with little likelihood of reaping the benefits through additional sales.

- **Removing obstacles to the use of a commercial supply chain.** The fundamental business model of commercial companies is not based on a specific customer or contract. Government acquisition, by contrast, is developed around terms and conditions imposed on a particular vendor and contract. Commercial companies generally must apply terms and conditions across the entire company. Furthermore, government-unique contracts apply terms and conditions – on internal accounting, inventory management, intellectual property, among others – not just on their own contract; they impose that requirement on all of a commercial company's processes that apply to their entire business. These costs, often estimated at a 15–20 percent cost premium, cannot be absorbed by the company on other products competing in a global marketplace against companies with no such constraints. The government's stated goal of encouraging commercial items and limiting unique terms and conditions continues to be eroded by dozens of additional requirements at the prime and lowest tier in the supply chain. We recommend a zero-baseline approach – essentially eliminating these requirements and starting again on a case by case basis – to reduce this burden and make it more affordable for suppliers to do business with the government. We also recommend that a company's contracts for general items such as office supplies or common tools *not* purchased to support a particular contract should not be treated as a defense subcontract. Recognizing these commercial best practices while providing additional oversight tools will increase DOD's access to affordable, innovative solutions in the commercial marketplace.
- **Maximizing the appropriate use of performance-based logistics (PBL).** Investment in product improvements is incentivized with the use of PBL agreements. These PBL agreements focus on performance outcomes with an incentive structure that shares risks and rewards. Multiple-year programs provide a business case to enable longer-term investments and continuous improvements in product designs. We support DOD in its efforts to increase the use of PBL agreements. We also support increased partnerships between the private and public sector to deliver best value for the warfighter. We recommend enhancing the acquisition process to look at costs and the outcomes through the entire life cycle.
- **Increasing the cost-effectiveness of oversight.** Accountability and transparency in the government acquisition process are critical. Our recommendations enable an empowered, trained, and skilled acquisition workforce

to ensure accountability and transparency without sacrificing innovation and access to the commercial supply chain.

The following chapters expand on these broad themes with specific legislative recommendations. We welcome continued dialog that will enable both DOD and industry to deliver more affordable capability through innovation and competition.

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I. ACQUISITION WORKFORCE — ENABLING A CULTURE OF EMPOWERMENT AND INNOVATION

ISSUE:

The knowledge, skills and capabilities of an empowered workforce can help solve many of government's acquisitions challenges. The Under Secretary of Defense for Acquisition, Technology and Logistics, Dr. Frank Kendall, is a strong advocate for the acquisition workforce. In an April 24, 2013 cover for Better Buying Power 2.0, he wrote:

“The first responsibility of the acquisition workforce is to think. We need to be true professionals who apply our education, training, and experience through analysis and creative, informed thought to address our daily decisions. Our workforce should be encouraged by leaders to think and not to automatically default to a perceived “school solution... At the end of the day, qualified people are essential to successful outcomes...”

The latest Better Buying Power 3.0 further advances this goal. Its recommendations include:

- Establish higher standards for key leadership positions;
- Establish stronger professional qualification requirements for all acquisitions specialties; and
- Improve leaders' ability to understand and mitigate technical risk.

Although DOD's recognition that acquisition excellence depends on the quality of the acquisition workforce and a culture that values informed, thoughtful decisions is commendable, the government's approach to achieving these decisions is not keeping pace with the global human capital shift toward a more innovative and informed workforce closely aligned with the speed and dynamics of the global marketplace.

At the same time, the current acquisition workforce is limited by a regulatory culture and training practices that underscore compliance, and a process framework that leaves little room for transactional flexibility. Such prescriptive regulatory structures are out of step with the need for independent exercise of discretion that comes with a modern workforce culture and technology changes over the past two decades that are designed to operate at rapid speed and provide the requisite data and transparency.

DISCUSSION:

Both personnel and skill gaps for the federal government acquisition workforce are also being exacerbated by the misalignment of skill sets in a rapidly evolving global business environment. Although DOD is moving toward building new workforce skill certifications and measurement systems to resolve workforce challenges by the end of the decade, those changes are lagging well behind the tools, incentives and innovations in the private sector. Acquisition training in the government focuses mainly on government-unique business practices that are largely unchanged since acquisition reform legislation in the 1990s, and have thus far missed the innovations in commercial business models since then. For example:

- Commercial logistics and flight service providers have been blurring the lines between providing materiel and providing services for more than 20 years. “Power by the hour” agreements, in which a service provider assumes the inventory management responsibilities (and concomitant cost and risk) from a fleet operator in return for on-time performance guarantees, are commonplace in the airline industry and other large fleet operations markets. These arrangements prove to lower costs and improve performance for the firms that employ them, yet PBL arrangements are still rare in the federal government.
- Firms like FedEx have dramatically reduced their customers’ operating cost by combining rapid transportation services with managing customer inventories. The logistics service provider takes over not only storage and distribution responsibilities, but also customer order fulfillment responsibility.
- Amazon is destroying old retail business models by providing a more convenient, reliable retail experience online than the “big-box” stores that it competes against can. Best Buy is trying to fight back with order-online/same-day-pick-up-in-store service (thereby eliminating delivery delays). Both are examples of seamlessly combining services and goods to provide better value.

Yet a look at the Defense Acquisition University’s (DAU) course catalog shows that out of 165 training courses offered, there are none on commercial buying practices, one on services acquisition (although services represent over 50 percent of DOD’s spend) and one on writing commercial item descriptions. DAU has not yet adapted its curriculum to the modern marketplace.

Meanwhile, as innovative services and business models have joined innovative products as a way for companies to differentiate themselves and add value in the commercial marketplace, both traditional and for-profit academic institutions have responded with a myriad of relevant educational products. From general offerings designed to improve critical thinking and problem-solving skills; to courses of study in innovation and entrepreneurship; to functional education in managerial finance, supply chain management, program management and so on, all are available, and the competitive nature of the nongovernmental education sector ensures that content is continually refreshed.

The federal acquisition workforce can benefit immediately from off-the-shelf offerings tailored to commercial or government customers or both. A significant added benefit of expanded use of existing nongovernmental academic content is exposing government students to more diversity, not only in course content, but also in opportunities to exchange ideas with other professional practitioners.

Diversity of experience and learning from other practitioners is the foundation of an existing successful idea that could and should be expanded. Both the Army and Air Force have run Education with Industry (EWI) programs for decades. Young officers (and some civil servants) spend a year with a sponsoring company, performing duties typical for a middle manager or junior executive. Students have been placed with both traditional defense suppliers and nondefense firms. They gain an insider’s view of how industry operates, and they act as ambassadors for DOD. They represent a “long-view”

strategic investment by the Department — they are expected to, and have, used their knowledge as they rise through the ranks.

The heavy training focus on teaching internal DOD practices and a constant flow of new procurement regulations every year (often with little time to prepare the workforce to enforce them) contribute to the risk-averse, rule-based culture within the acquisition workforce. The workforce perceives the cost of deviating from “the school solution” as, at minimum, requiring more work, and, at maximum, some form of censure, while the rewards for innovating are not evident. This is not to say that the government does *not* reward innovators, but rather that opprobrium seems to speak louder than praise. This perception must be changed — and can be at comparatively little cost — if the government desires to move from a rule-based culture to one based on judgment and innovation.



Risk aversion and valuing compliance over informed judgment is not a fundamental feature of the Federal Acquisition System. The FAR itself, in its section titled “Statement of guiding principles for the Federal Acquisition System,” states (in part):

“Government members of the Team must be empowered to make acquisition decisions within their areas of responsibility.... In particular, the contracting officer must have the authority to the maximum extent practicable and consistent with law, to determine the application of rules, regulations, and policies, on a specific contract.” (FAR 1.102-4(a))

“The FAR outlines procurement policies and procedures that are used by members of the Acquisition Team. If a policy or procedure, or a particular strategy or practice, is in the best interest of the Government and is not specifically addressed in the FAR, nor prohibited by law (statute or case law), Executive order or other regulation, Government members of the Team should not assume it is prohibited. Rather, absence of direction should be interpreted as permitting the Team to innovate and use sound business judgment that is otherwise consistent with law and within the limits of their authority. Contracting officers should take the lead in encouraging business process innovations and ensuring that business decisions are sound.” (FAR 1.102-4(e))

But changing the culture to realign with these guiding principles will require leadership and the tools to focus the entire acquisition workforce on the desired outcomes. Current rewards and recognition do not touch enough of the workforce, nor are they coordinated in a way to bring about a major shift. What is needed are tools that

reward innovation specifically, and that touch enough people so as to make it likely that *every* member of the acquisition workforce will see the desired behavior rewarded in *their* organization.

Ultimately, changing the acquisition workforce will take time, but several keys to shifting the workforce toward a different cultural model have commonly surfaced. Continual training and development, exposure to innovation, more experience and instruction in business decision-making and risk analysis, development of critical thinking — not just process — skills and access to supportive agency leadership are all approaches to the problem that can be offered now.

The following recommendations will require some level of industry/government collaboration to flesh out. Many recommendations propose changes to DOD training and curriculum, and include changes that may require legislation. Others focus on the relationship within an agency of the acquisition workforce, the personnel system, the internal users, and the leadership and management culture. The success of these recommendations will require further and continual engagement with agency executives, Congress and industry.

RECOMMENDATIONS:

The following recommendations will help shape the acquisition workforce to meet the challenges of a global culture of innovation and accountability.

Raise requirements for accession into senior leadership roles in the acquisition workforce and provide added tools for workforce managers to develop future leaders through the following actions:

- Expand the role of education and experiential learning in developing the acquisition workforce by:
 - Making the Department of Defense Acquisition Workforce Development Fund (DAWDF, 10 USC 1705) and the Acquisition Workforce Training Fund (AWTF, 41 USC 1703) permanent parts of the budget at each executive agency. Set the level of credits to the DAWDF to not less than the amount for fiscal year 2015 and retain the level of credits to the AWTF at not less than 5 percent of the fees collected by non-DOD agencies under government-wide contracts.
 - Encouraging diverse, contemporary learning by requiring DOD to allocate a percentage of the DAWDF that the USD (AT&L) deems appropriate, but not less than 25 percent, to education with university-level, accredited non-DOD academic institutions in subject matter appropriate to acquisition management (e.g., program management, managerial finance, commercial and government contracting and purchasing, engineering management, supply chain management) or such other acquisition-related disciplines that the Department may identify as necessary to improve the knowledge and skills of the acquisition workforce. These funds may be used to purchase course content or education services, and they may be used to provide tuition or

tuition assistance for individual employees, or for another appropriate purpose consistent with the goals of the DAWDF and this direction.

- Encouraging continuing education as a significant component of continuous learning by requiring the executive agencies to adjust the education requirements for members of the acquisition workforce to emphasize continuing education as a mandatory component of continuous learning separate from, and in addition to, training. As a minimum, require additional accredited credit hours of business-related education, beyond the basic DAWIA requirement of 24 hours of business credit, before acquisition workforce members can advance from one level of certification or qualification to the next higher level. The target should be for members of the acquisition workforce to have a master's degree or equivalent education in an acquisition-relevant, business-related discipline to qualify for positions with significant acquisition responsibility (e.g., DAWIA Level III or equivalent).
- Directing OFPP, in conjunction with DAU and FAI, to deploy a strategy for experiential learning through business simulations and/or gaming to address critical core skills and capabilities to include:
 - Managerial finance.
 - Critical thinking skills.
 - Creative problem-solving.
 - Market knowledge (both market data analysis and to identify commercial capabilities and products).
 - Negotiations.
 - Risk analysis and management.
 - Conflict resolution (how to work with customers or transactional parties).
 - How to judge the equilibrium between cost or price and value.
- Requiring DOD to develop an actionable, ongoing government/industry exchange program modeled on expanded versions of DOD's EWI and TWI programs. The target should be to have 1,000 students per cycle (or 1 percent of the acquisition workforce, whichever is lower) participating. Participating firms should include traditional government suppliers and firms or business units that do less than 10 percent government business, large businesses and small businesses, and manufacturers and service providers representing a broad spectrum of the government market.

Improve services acquisition training through the following actions:

- In light of DOD spending approximately 50 percent of its purchasing dollars on services, encourage improved tradecraft in acquisition of services by:
 - Directing DAU and FAI to increase the services content of their curricula to an appropriate level, but not less than 25 percent of classroom hours and not less than 25 percent of online content at each course level (e.g., 100 series

courses through 400 series courses). Encourage both institutions to partner with nongovernment providers by requiring the curricula to be rebalanced not later than two academic years after legislation instituting this requirement passes.

- Requiring 1 percent of the DAWDF and TWF to be allocated to academic research into applying modern service delivery models to government services objectives. Require DOD to report to Congress on its progress in applying modern service methods to streamline business practices.

Ensure training on new acquisition requirements before implementation by:

- Requiring executive agencies to develop and deploy training on how to apply any new acquisition regulations to their acquisition workforce and industry, before making such new regulations effective, unless:
 - The new regulation is an interim rule required to meet a legislatively mandated deadline, and the Head of Agency determines that there is not sufficient time to develop and deploy such training. If that is the case, the agency must deploy training to its workforce and industry at the earliest possible date; or
 - Congress specifically exempts a new requirement in law from complying with this new regulation.

Incentivize and reward innovative decision-making by:

- Reinforcing the statement of principles in FAR 1.102 about discretionary authorities and innovation. Align recognition and rewards to emphasize innovation and initiative by:
 - Requiring executive agencies to use a portion of the DAWDF or TWF, as applicable, to recognize significant innovation and/or initiative that demonstrate the FAR 1.102 principles. Such a recognition program should be sized so as to recognize not less than 1 percent of the acquisition workforce each year, thus increasing the likelihood that every acquisition workforce member is able to see that he or she has a chance to earn recognition. Provide the awardees with rewards valued at not less than \$2,000 each. Agencies are to be encouraged to be innovative in how they structure the rewards (e.g., not just cash; they should consider sabbaticals, merchandise or added vacation time — they should be creative).
 - Incentivizing the acquisition workforce to apply business acumen and innovative solutions by requiring agencies to give extra consideration for promotions and high-responsibility assignments to acquisition innovation award winners.

Leverage opportunities for lessons learned from industry by encouraging a process on reverse debriefings by offerors after award to allow industry to evaluate the actions of the acquisition team and use the results to improve the process at each agency.

II. INCORPORATE COMMERCIAL BEST PRACTICES IN THE REQUIREMENTS PROCESS

A. Simplify the Joint Capabilities Integration and Development System (JCIDS) Process

ISSUE:

The processes for assigning priority and funding levels for joint military requirements would be improved through reduced cycle times. This was a key GAO recommendation in its February 2012 report: “Guidance and Progress Measures Are Needed to Realize Benefits from Changes in DOD’s Joint Requirements Process.”

DISCUSSION:

Cycle time has long been a priority in DOD efficiency initiatives and is re-emphasized in Better Buying Power 3.0.



The previous iteration of Better Buying Power (BBP 2.0) recommended reducing cycle time while ensuring sound investment decisions by assessing the root causes for long product cycle times, particularly long development cycles with the goal of significantly reducing the amount of time, and therefore cost, it takes to bring a product from concept to fielding. A full range of factors — oversight activities, funding stability, contracting lead time, requirements processes, technical complexity, use of risk reduction activities and testing requirements — will be considered as possible contributing factors.

The current requirements and acquisition systems are not nimble enough to keep up with the speed of the threat nor can they take advantage of the agility and innovation of the commercial technology industry. The JROC process adds another level of complexity to the acquisition process, with an imperative for adding value. The JROC process was established in 2008 (10 USC 181) to assist in establishing and assigning

priority levels for joint military requirements and to help ensure that resource levels associated with those requirements are consistent with the level of priority.

DOD policy states that requirements must be validated before an acquisition program can start system development. The service chiefs and their supporting staff offices lead operational requirements development within each military department and approve associated documentation before JROC reviews at the DOD level. Each military department uses a tiered requirements development and approval process supported by acquisition and other functional offices. Requirements that are developed for major defense acquisition programs are reviewed and validated by a senior-level requirement review board usually chaired by the service chief or vice chief of staff. Each military department uses different approaches and mechanisms within this tiered process to facilitate stakeholder involvement. The JCIDS and the entire acquisition system are composed of complex networks of multiple committees, groups, processes, regulations and documents.

The February 2012 GAO report found that:

- *The JCIDS guidance in effect through December 2011 did not directly facilitate the timely delivery of capabilities to the warfighter. The Joint Staff implemented new procedures to expedite reviews of urgent needs and to establish targets for anticipated delivery times for weapon systems to facilitate timely delivery of capabilities to meet needs.*
- *The JROC has not been effective at prioritizing capability needs or guiding the efficient use of resources to meet joint capability needs and balance resources and risks. The JCIDS process does not actively prevent or encourage requirements creep, as these changes are driven by the program sponsor and may not appear during a review of documents.*

For example, the aforementioned GAO report found that for a representative sample of requirements processed through JCIDS, between three and 17 months were required to gain approval, yet product cycles for cybersecurity, information technology (IT), intelligence and data analytics capabilities run 12 to 18 months. The service requirement processes are all different, which also slows down the JROC approval process.

The JCIDS requirement process has not been effective in its primary goals, which are to prioritize capability needs and guide the efficient use of limited resources to meet those needs. The multilevel processes, complexity, regulations and reporting requirements combine to extend the time to review and approve major platforms and systems. This extended timeline adds to delivery schedules, increases costs and slows assimilation of new IT — particularly cyber, and innovative and commercial technologies — into DOD systems.

RECOMMENDATION:

Mandate a review by the Defense Business Board or other outside independent experts not associated with the U.S. government to review the JCIDS process and make recommendations for driving quicker requirement decisions based on best commercial practices. Emphasize learning from high-technology companies working

with cybersecurity, IT and other technologies in which speed to market drives customer value.

This recommendation will enable a more agile, quicker-reacting requirements process that is attuned to the pace of change in modern, high-tech markets, thereby ensuring that our servicemen and servicewomen continue to be assured of a technological edge against any potential adversary.

Require All Services to Use Similar Requirement Processes. These consistent processes need to be compatible with Joint Staff processes and JCIDS. Inefficiency caused by each service having its own process to build requirements and lack of knowledge about other services are causing delays and confusion. Having a repeatable enduring process at both the service and joint levels that incentivizes moving requirements through the process more rapidly will improve cycle time, reduce cost and deliver capability faster.

B. Increase Affordability and Innovation Through Market Research for Requirements

ISSUE:

Market research is an important enabler of access to the commercial marketplace and cutting edge technologies. Early, rigorous market research is fundamental to achieving value from commercial items and services. The opportunity to first leverage previous technology investment in the commercial marketplace is emphasized in the repeated focus on the requirement for market research in five out of the six sections in FAR Part 10, *Market Research*. This is a requirement of the Federal Acquisition Streamlining Act of 1994 (FASA), PL 103-355. DOD does not have the expertise or training to conduct market research; thus, its ability to fulfill these requirements is undermined.

DISCUSSION:

DOD has been slow to make widespread use of commercial marketplace research in setting requirements. The recent DOD acquisition policy initiative, Better Buying Power, contains only limited advocacy of market research and of commercial items and practices in general. Although “targeting affordability” is a key topic area in Better Buying Power, market research is mentioned only in a subgoal of improving tradecraft in the acquisition of services and is refined to focus narrowly on small business participation.

FASA made it clear that commercial item acquisition is the preferred approach to streamline and simplify acquisition, and to capitalize on the innovation and investments of the commercial marketplace. Purchases of commercial items lead to significant cost savings and added value, eliminating the need for unique military specifications for commonly available commercial items. An important initial step in the acquisition process is doing market research to determine if there is a commercial solution to a requirement.

The FASA implementation included revisions to the applicable FARs to emphasize commercial acquisition and market research.

Implementing 10 USC 2377, the statement of guiding principles for the Federal Acquisition Regulatory System, at FAR 1.102(b), says:

The Federal Acquisition Regulatory System will --

(1) Satisfy the customer in terms of *cost, quality, and timeliness of the delivered product or service by, for example --*

(i) Maximizing the use of commercial products and services;

(ii) Using contractors who have a track record of successful past performance or who demonstrate a current superior ability to perform; and

(iii) Promoting competition; (emphasis added)

FAR Part 12, *Acquisition of Commercial Items*, was added, and FAR Part 10, *Specifications, Standards, and other Purchase Descriptions*, was replaced with a new FAR Part 10, *Market Research*.

Commercial derivative aircraft programs present compelling evidence of the potential benefits of market research in meeting military needs while avoiding expensive development cost, reducing sustainment cost, leveraging economic commercial supply chain inventories and processes, managing technological obsolescence, and accelerating availability and deployment of needed new capability. Savings to taxpayers from bypassing decades-long dedicated platform development programs alone are immense. Other examples of military requirements that can benefit from market research in leveraging commercial investment include automotive platforms, IT, communication systems and a wide variety of technology-driven services.

Market research also enables in-depth understanding of the market, price trends, technology advancements and other domain expertise. The ability to do market research is a critical part of commercial item determinations (CID) and price reasonableness



determinations (PRD). It is important for DOD to understand the marketplace and business models for commercial companies so DOD can understand how services are provided, how customers assess value and what the key metrics are for successful performance in delivering commercial items and services.

Congress recognized that DOD needed additional focus on market research and PRDs with Section 826 of the FY 08 NDAA (PL 110-181), requiring the Secretary of Defense to develop training to assist contracting officers with market research for compliance with the requirements in 10 USC 2377(c). Section 831 of the FY 13 NDAA (PL 112-239) included a requirement to establish a cadre within DOD to develop expertise in evaluating price reasonableness of commercial items and the adequacy of supporting data. In response, DOD established a commercial pricing cell within the DCMA's Cost and Pricing Center. The center's purpose is to support contracting officers with knowledge and resources for both CIDs and PRDs. There is no comparable focus or training on market research.

RECOMMENDATIONS:

We recommend that Congress expand the guidance and training requirements included in Section 831 of the FY 13 NDAA, requiring the Secretary of Defense to “develop a cadre of experts within the Department of Defense to provide expert advice,” to include market research as required by 10 USC 2377(c). This should include a mix of skilled acquisition and requirements personnel with experience in buying relevant technologies or services in the areas they will be researching, and preferably to be led by individuals with extensive commercial marketplace experience.

We also recommend that the legislation require that relevant DOD directives and instructions (e.g., the DOD 5000 series and the JCIDS) be revised to document the role of the new market research group(s) in meeting statutory market research requirements, and the timing of the new market research groups' involvement in the capability requirements and acquisition processes.

These recommendations will hasten development of commercial marketplace research expertise within the DOD acquisition workforce, inculcate commercial marketplace research into the requirements process early, and ensure that high-quality market research capabilities are available to requirements and acquisition officials; and by so doing, maximize the cost, schedule and performance benefits of commercial market innovations to the Department.

III. IMPROVE THE ACQUISITION PROCESS FOR COMMERCIAL ITEMS AND SERVICES

A. Streamline the Commercial Item Determination Process

ISSUE:

Benefits of Commercial Item Acquisition

- ✓ Rapid access and deployment of state-of-the-art technologies developed at private expense.
- ✓ Reduced government R&D costs and time.
- ✓ Establishment of a healthier industrial base by providing access to more suppliers and nontraditional suppliers.
- ✓ Increased competition.
- ✓ Use of open industry standards.
- ✓ Prices subject to market forces, ensuring fair and reasonable prices.
- ✓ A contracting process that is simpler and more efficient than the traditional TINA process.
- ✓ Access to commercial supply chains for logistics support, spares, repairs and maintenance, and obsolescence management.

The government's process for making Commercial Items Determinations has become unnecessarily complex and time-consuming, leading to increased costs and cycle times. This time-consuming complexity is also creating risks in production lines and deterring commercial companies from wanting to do business with the government. This is unacceptable at a time when the government needs access to cost-effective, innovative commercial solutions from a more diverse industrial base more than ever.

Rapid and cost-effective access to commercial items has long been, and remains, a paramount objective of government and industry alike. Today's business environment, however, is one largely defined by both a rapidly evolving commercial marketplace and a precipitously declining DOD budget. Today, perhaps more than ever, DOD stands to benefit from private industry's

substantial commercial investments in technologies that advance the state of the art without government investment. Given the extensive research, analysis and reports issued by governmental and industry organizations over the last several years, it is now beyond reasonable dispute that when DOD qualifies and purchases "commercial items," it does so at significant cost savings and value to both the warfighter and taxpayers.

DOD's current interpretation of what constitutes a "commercial item" is narrowing rather than expanding access to commercial items. Informal, verbal guidance being given from senior acquisition officials to contracting officers has created a risk-averse acquisition team with a narrow view of commercial items. As a result, the current approach to commercial item acquisition is becoming increasingly inefficient and inconsistent, leading to growth in proposal costs and uncertainty among the commercial supply base about whether an item is commercial and, if so, whether it will remain a commercial item.

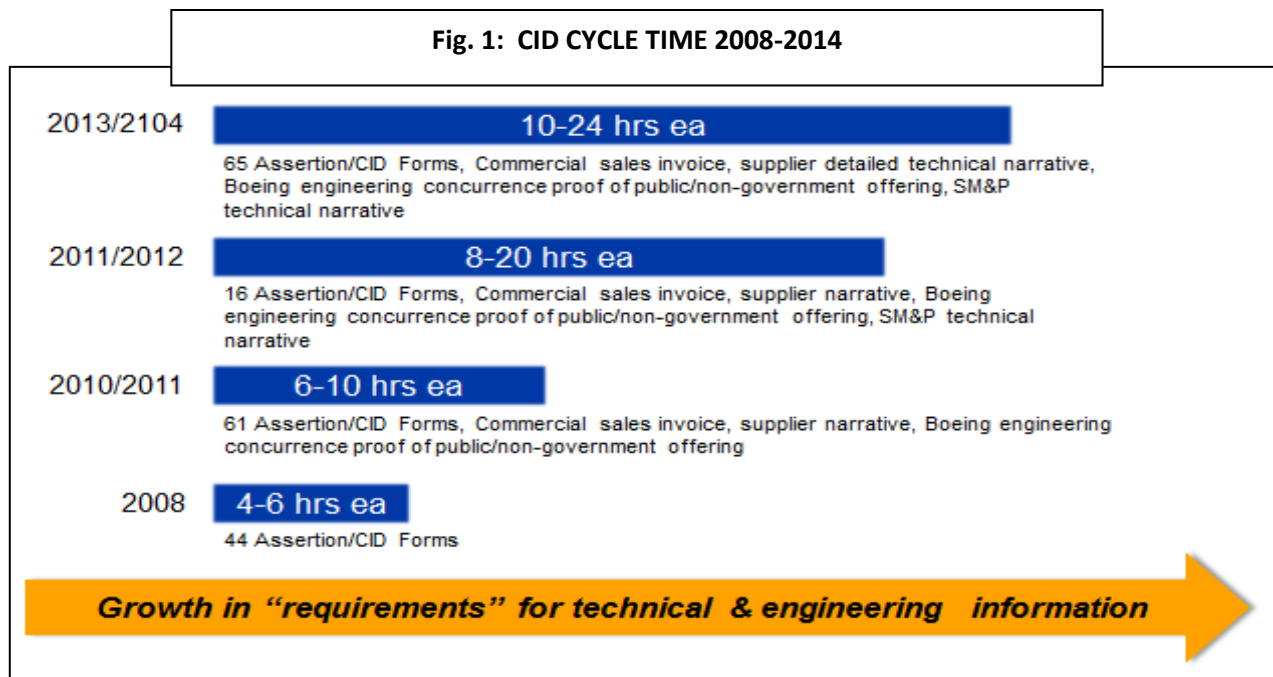
Commercial companies are re-evaluating their willingness to operate in the government acquisition environment. To restore supplier confidence and retain the

government's access to commercial innovation, a change is needed to streamline the CID process and drive consistency in CID conclusions.

DISCUSSION:

The CID process has become slow and inefficient, leading to increased cycle times and excessive proposal costs.

Excessive Supporting Data Requirements. The amount of data requested for justification of commerciality has grown significantly over the last several years. Boeing and its supply base are finding it increasingly time-consuming and costly to support the CID and price reasonableness assessment process. It is not uncommon for suppliers to be required to submit commercial sales invoices, detailed technical narratives, proofs of



publication and government offering, and other detailed engineering analyses in addition to the data required in the standard CID forms.

Boeing tracked the average amount of time to obtain CID approval on a major military aircraft support program for a six-year period from 2008 to 2014. The results demonstrate the growing burden — showing a fourfold increase in the hours involved in the CID process. Yet, the formal guidance regarding CIDs has not changed since the *Commercial Item Handbook* was issued in 2001. The length of time for the government to make a CID has grown to several months even for procurements under the threshold for the Truth in Negotiations Act (TINA) (PL 87-653) (10 USC 2306a).

CID Rejection Following Four Prior Approvals

A long-time commercial electronic part supplied to Boeing on a major munitions program is “of a **type**” used throughout the commercial market but is modified slightly for military use with government-unique software. The unique software makes this particular configuration unavailable for public sale. On **four occasions** in the past year, the same component with the same unique software was purchased by the government to support other programs. Extensive amounts of data supporting both commerciality and price reasonableness were provided for the current acquisition, including an **independent technical review** and **commercial sales data**. Despite these data and the evidence of recent prior commercial acquisitions, the contracting officer **rejected the commerciality** assertion and required a TINA-compliant proposal. The supplier is evaluating the cost impact of this decision and expects the unit price will go up as the supplier adjusts its commercial practices to comply with government oversight.

Redundant CIDs. Current DOD guidance requires a stand-alone assessment for every individual purchase exceeding the threshold, even for those parts for which a prior CID exists. Some DOD agencies are requiring such assessments for items below the threshold as well. The practice (1) creates unnecessary redundancies for both the supplier and the government and, more concerning, (2) often leads to inconsistent determinations for the same part.

First, suppliers often find they are providing redundant data to multiple buying commands and sometimes to the same buying command to support CIDs on different procurements. Contracting officers rarely seek out recent prior determinations to draw on the analysis already completed. Presumably, prior determinations are completed in good faith, and the supporting data collected should serve as the starting point for future procurements if the circumstances surrounding the prior acquisition have

not changed significantly. Combining this inefficiency with the increased data requirements described above for each CID, the effect on commercial suppliers is overly burdensome and costly.

Secondly, it is commonplace to find inconsistent CIDs for the same part across buying commands. Unless new information is available or the circumstances surrounding the part have changed substantially, there should be no reason for a prior determination to change. Allowing contracting officers on different programs to reach independent and conflicting conclusions regarding the commerciality of a part is entirely unreasonable for a supplier. Commercial companies must have confidence in their ability to retain commerciality to make ongoing business and investment decisions.

Boeing recognizes the challenges in allowing a single CID to set the standard for all future acquisitions of a commercial item. Guidance and oversight would be necessary to monitor compliance and accuracy, but surely it is more efficient to adopt proactive measures to prevent erroneous CIDs at the first determination than revisit the CID for each acquisition. This approach not only reduces costs for the supplier and the government, but it also serves to instill confidence in the commercial supply base that a part will continue to be commercial. Suppliers will also have more confidence that

investments in products for DOD will not risk losing the qualification as a commercial item. Prime contractors also need to know that their CIDs for their suppliers will not be later second-guessed by changing informal practices that undermine commercial acquisition.

Another example of the challenges with lack of consistency and predictability resulted when one of Boeing's and many other prime contractors' suppliers, Rockwell Collins, had a class determination of commerciality revoked. Rockwell Collins entered into a Strategic Business Alliance in 2000 with the Government/Rockwell Management Council. This class determination was for 50 product lines. This agreement was used effectively until February 2013 when the DCMA directed it to be cancelled. The only reason given was DFARS 234-7000, without an explanation as to why it needed to be changed. This class determination was relied on not only by Rockwell Collins with the government but also with its prime contractors. There was little notice, and suddenly Rockwell and the prime contractors with whom it regularly deals had to start over in negotiations for those same items. This is another aspect of the importance of rely on the government's longstanding decisions in order to make these determinations.

RECOMMENDATIONS:

Boeing offers these recommendations to drive efficiency and consistency into the government's approach to commercial item acquisition. Without these changes, DOD acquisition costs will increase, cycle times will continue to grow, and supplier confidence will falter. Given declining budgets and the ever-increasing cost and risk of doing business with the government, it is inevitable that commercial companies will decide it does not make good business sense to sell to the government.

- ***Training on requirements for determining commerciality.*** Boeing recommends that Congress direct the USD AT&L to do the following:

Issue training materials to aid acquisition officials in better understanding the specific requirements for developing and documenting CID approvals. Such training should incorporate past examples and lessons learned aimed at promoting consistency in the application of the rules in future acquisitions.

- ***Amend Title 10, Section 23, "Commercial Item Determination," to address prior determinations.*** Boeing recommends the following language:

"Contracting officers shall presume that a prior determination by an agency official that an item may be treated as a commercial item for the purposes of Section 2306(a) is justified for all subsequent acquisitions of such item unless the head of the contracting activity determines, based on information provided by the Department of Defense, that the item no longer meets the definition of a commercial item as defined in Section 4(12) of the Office of Federal Procurement Policy Act (41 USC 103)."

- ***Establish an internal system for testing CID compliance.***

Congress should direct DOD to implement a periodic internal review process to ensure consistency in the application of CID policies and rules by acquisition officials. This will eliminate the need to duplicate the government's CID efforts each

time an item is being procured. A database of approved CIDs should be created to act as a single source of reference. For further efficiencies, we recommend DOD be directed to ensure adequate staffing and training for the new DCMA commercial pricing cell to oversee the process. It is important that the training include understanding commercial item processes and the value of commercial items (see additional discussion in the next paper on price reasonableness). The determinations need to be transparent to the contractor, and an avenue for appealing decisions is also critical.

B. Include Value in Price Reasonableness Determinations

ISSUE:

The success of commercial item acquisition is in large part based on the early recognition that there are standard commercial modifications to items that should not disqualify them from being considered commercial items. This concept was included as allowing modifications “of a type” on a commercial item without the item losing its status as a commercial item.

There are many documented successes of commercial item “of a type” acquisitions. The Rockwell Collins KC-135 ATM system (see box above) is one such success. However, an increasingly narrow view of commercial value and price reasonableness for commercial items “of a type” is preventing the government from taking full advantage of the opportunities available in the commercial marketplace. Government decisions denying CID status are more and more often based on a narrow approach to price reasonableness that relies solely on commercial sales data. This approach fails to consider the value inherent in the way that an item benefits from being developed and manufactured using commercial processes in a commercial facility. This unnecessarily limits the government’s access to innovative technology and nontraditional suppliers.

Rockwell Collins success with Commercial Items “Of a type” in military aviation



Rockwell Collins has invested more than \$200 million over the past 10 years to development and sustain CNS/ATM solutions supporting military aviation.

- Military Aviation, both fixed and rotary wing, have benefited greatly from “of a type” commercial procurements of Communication, Navigation, & Surveillance (CNS) and Air Traffic Management (ATM) systems.
- These CNS/ATM systems are built from “of a type” hardware and software and have enabled unrestricted access to civil airspace, improved safety and greatly expanded mission capabilities.

KC-135 (GATM)

In 1999, the U.S. Air Force implemented the GATM upgrade to its KC-135 fleet. The government specified hardware with commercial open architecture interfaces that required only minor modifications to meet unique governmental purposes.

First deliveries of GATM hardware occurred only 14 months after contract award. A traditional government-funded development program would likely have taken 36-40 months for initial deliveries.

Contracting officers need better guidance on assessing and documenting this value in addition to other available market research and cost and pricing information.

DISCUSSION:

Making Value-based CIDs. The government should be able to justify the value of a commercial item by using all the benefits and cost information available. Current informal guidance being used throughout DOD prevents the use of FAR Part 12 when a robust commercial market for that exact item does not exist. Acquisition officials presume that without multiple commercial customers, the value gained from “market forces” is no longer present and price reasonableness can only be assessed using cost data.

This myopic presumption ignores the inherent value an item gains from being produced using commercial development, facilities, employees, materials and processes. Significant value must be considered for commercial items regardless of the current customer base. These considerations include:

- Reducing or eliminating development cost and time.
- Leveraging the company’s innovation and investment in new technology.
- Sharing in the results of a healthy, competitive industrial base.
- Sharing in a product support infrastructure that serves a broad global market.
- Leveraging a larger sales base to reduce the overall costs of every item produced.
- Shifting inventory carrying costs and associated risks to the contractor.
- Shifting the risk for supply chain integrity and parts obsolescence.
- Avoiding re-procurement and/or redevelopment costs for mature product lines.

Commercial companies must compete in global markets. Pressures are enormous to lower costs and innovate to stay ahead of the competition. These same market forces benefit all products being developed and produced. It is critical that the government look at CIDs in this larger context, including the opportunity cost of having to replicate all the costs or requalify a supplier just because the company was and still is a commercial company. The chances are growing that the supplier will just say no.

Legacy Spare Parts Are Still Commercial Items. This concept of commercial value is particularly relevant in the case of legacy spare parts. These are items that were historically determined to be commercial, but for which the government is now the only buyer because the commercial marketplace has moved on to newer technology. With little or no commercial sales data for that exact item, DOD acquisition officials are reversing longstanding commercial determinations and now suddenly requiring cost and pricing data. Cost as a sole means of valuation ignores the value already received from the commercial entity that produced the part and the continuing value of the item’s commerciality over the product life cycle. Furthermore, a company cannot reasonably be expected to develop costly unique cost and pricing data for a commercial item solely because the government becomes the only remaining customer for that item. Once a part is approved for commerciality, unless a changing government requirement drives a substantial modification, the part must remain commercial or the government risks losing access to legacy commercial parts.

The value for the commerciality of the item should be part of the determination as described in the section above. In addition, substantial market-based pricing information is available to provide additional insight into the part. Training will help government contracting officers to make these determinations, but it is also a cultural issue. We have provided websites with market information on the same or similar items, showing detailed sales information by commercial buyers. This transparency and detailed pricing information should be adequate in itself to justify commerciality and price reasonableness, even more so when also considering the value of commercial parts built in competitive environments.

Commercial Services and Capabilities. The same commercial value can be found in government-unique items produced using standard commercial services. A build-to-print shop producing a custom item for government use is providing a commercial service as it would to any other public customer. The service remains commercial regardless of the part being produced or the end customer. We see this issue often in repairs and maintenance when DOD asserts that a basic service on a part cannot be considered commercial if the part itself is not commercial. The nature of the part should be irrelevant if standard commercial processes are used to provide the repair service.

In both these circumstances, DOD can readily document the commerciality benefits in support of the determination that the item is a commercial item. Such a narrow focus on “of a type” commercial items completely alters the CID and undermines the purpose of attracting commercial and nontraditional contractors to do business with DOD.

Current Approach to Price Reasonableness Is Too Limited. CIDs are being driven by a narrow approach to assessing price reasonableness that relies solely on commercial sales data in a perfect market or a requirement for the supplier to provide cost data.

Limited Use of the Full Spectrum of Price Reasonableness Techniques. Rather than employ the many methods available to do a price reasonableness analysis, PCOs routinely default to requesting “other than cost and pricing data.” This narrow approach both ignores the concept of value described above and risks driving suppliers out of the market. Many companies cannot or will choose not to provide cost data. Companies operating under commercial business practices cannot support the government’s request for cost visibility because the data is not available, or they consider cost data to be a competition-sensitive trade secret and are unwilling to disclose it.

There are many alternatives to cost when evaluating price. In fact, the FAR provides at least seven different price analysis techniques to assess price reasonableness, including:

- Adequate price competition.
- Comparison to previously proposed prices.
- Parametric estimating methods.
- Independent cost estimates.
- Market research.

- Analysis of information provided by the offeror.
- Value analysis.

Boeing recognizes the complexity in assessing price reasonableness on “of a type” commercial item acquisitions, but many alternative techniques to cost or sales data should be used. Even the *DOD Commercial Item Handbook*, Version 2.0, Appendix G, is dedicated to “Price Analysis Techniques.” Yet, few of these techniques are ever used. Price reasonableness should be determined without seeking the kind of cost and pricing data that would be available for a government contractor subject to the cost accounting standards.

Price Reasonableness Challenges Are Driving CID Rejections. As a result of DOD’s challenges to employ the full spectrum of pricing techniques, it has become a common DOD practice to reject commerciality because of a perceived inability to determine if a price is fair and reasonable. Doing so allows a contracting officer to obtain certified cost and pricing data. Determining commerciality and assessing price reasonableness must be independent steps. Regardless of initial assessments on the availability of data to support price reasonableness, the commerciality of an item does not change. Acquisition officials must draw on the vast range of pricing techniques once a CID has been approved. AeroAntenna, a commercial small business supplier to Boeing, received a letter from DOD on a recent CID that indicated the government would agree to commerciality but only on the condition that AeroAntenna would submit “enough data to support a price reasonableness determination.” This is entirely contradictory to current regulation. The practice is having a significantly negative effect on the confidence of commercial suppliers in continuing to do business with the government.

"It shouldn't take more than 10 business days to figure out if it's 'of a type'Don't spend months wrangling over whether this is a commercial item, and get to the point of why should I pay that price."

Shay Assad, director of Defense Pricing, in an interview with *National Defense Magazine* (Sept. 1, 2014).

In summary, the government’s narrow approach to price reasonableness and valuation for commercial items “of a type” is creating an acquisition environment within which commercial suppliers cannot depend on reasonable and practical approaches to valuing their products. Ultimately, these challenges will drive suppliers out of the market and create an impenetrable barrier to entry for new, innovative suppliers.

RECOMMENDATIONS:

Boeing offers the following recommendations to ensure continued access to commercial items “of a type” and to parts for which a robust commercial market no longer exists:

- **Issue new guidance.** Boeing recommends that Congress direct the USD AT&L to issue the following guidance:
 - **Guidance on maintaining CID and price reasonableness as independent steps.**

The process of establishing the commerciality of an item should not be driven by price reasonableness objectives. Acquisition officials should employ a two-step analysis, first determining whether the item being procured is a commercial item as described in FAR 2.101, followed by a separate assessment of the type of data required to determine whether the price being offered is reasonable.

– ***Guidance on the absence of current commercial demand.***

The absence of current demand in the commercial marketplace for an item does not preclude a CID approval. Contracting Officers should, whenever possible, exhaust all reasonable avenues for obtaining data and all techniques available for determining price reasonableness before seeking detailed cost or pricing data from contractors.

– ***Guidance on using the full spectrum of price reasonableness techniques available.***

PRDs must take into consideration all pricing information available from within the government and sources other than the offeror and from the offeror (in that order), and price analysis must be fully explored in connection with the procurement of commercial items before cost data is considered.

Price analysis requires complete and rigorous use of analytical procedures and techniques set forth at FAR 15.404-1(b), including, when necessary, adjustments to historical pricing data. Value analysis can, and in many cases should, be used in conjunction with these techniques. The documentation for the value that DOD receives from the commerciality of the processes used by the entity developing the commercial item should include, among others:

- Leveraging the company's innovation and investment in new technology.
 - Significantly reduced development cost and time for the government.
 - Leveraging a broader industrial base.
 - Leveraging a product support infrastructure.
 - Leveraging a larger sales base to reduce the overall costs of every item.
 - Carrying the cost of inventory for parts for all commercial items.
 - Carrying the risk for supply chain integrity and parts obsolescence.
 - Avoiding re-procurement and/or redevelopment costs.
- ***Require price reasonableness documentation.*** Boeing recommends that Congress require the acquisition community to document all alternative approaches considered to assess price reasonableness for commercial items, including value analysis, before requesting cost data from a supplier.
 - ***Amend 10 USC 2306a to account for the value of commerciality.*** Boeing recommends that a new section be added to subsection (d) of 10 USC 2306a, as

a new subsection (d)(2) and that subsection (2) be renumbered to be subsection (3), as follows:

(d) Submission of other information.

(1) Authority to require submission. When certified cost or pricing data is not required to be submitted under this section for a contract, subcontract, or modification of a contract or subcontract, the contracting officer shall require submission of data other than certified cost or pricing data to the extent necessary to determine the reasonableness of the price of the contract, subcontract, or modification of the contract or subcontract. Except in the case of a contract or subcontract covered by the exceptions in subsection (b)(1)(A), the contracting officer shall require that the data submitted include, at a minimum, appropriate information on the prices at which the same item or similar items have previously been sold that is adequate for evaluating the reasonableness of the price for the procurement.

(2) Value of commerciality. The contracting officer shall consider the benefits of an item having been produced in a commercial facility as additional justification of the value for purposes of determining price reasonableness, including benefits that demonstrate cost avoidance and other benefits from buying commercial items:

- Leveraging the company's innovation and investment in new technology.
- Reducing or eliminating development cost and time.
- Sharing in the results of a healthy, competitive industrial base.
- Sharing in a product support infrastructure that serves a broad global market.
- Leveraging a larger sales base to reduce the overall costs of every item produced.
- Shifting inventory carrying costs and associated risks to the contractor.
- Shifting the risk for supply chain integrity and parts obsolescence.
- Avoiding re-procurement and/or redevelopment costs for mature product lines.

(3) Limitations on authority. The Federal Acquisition Regulation shall include the following provisions regarding the types of information that contracting officers may require under paragraph (1):

(A) Reasonable limitations on requests for sales data relating to commercial items.

(B) A requirement that a contracting officer limit, to the maximum extent practicable, the scope of any request for information relating to commercial items from an offeror to only that information that is in the form regularly maintained by the offeror in commercial operations.

(C) A statement that any information received relating to commercial items that is exempt from disclosure under section 552(b) of title 5 shall not be disclosed by the Federal Government.

- **Engage with industry.** Boeing recommends that DOD engage with industry to develop a better understanding of how the commercial market establishes value. This will provide further insights to the acquisition workforce in evaluating the value to the government of commercial items that no longer have a significant commercial market. This should also be included in curriculum on commercial items and price reasonableness at the DAU.
- **Address legacy spares.** Boeing recommends that the Under Secretary of Defense for Acquisition, Technology and Logistics specifically address legacy commercial items, as directed by Section 831 of PL 112-239, the FY 13 NDAA, and issue guidance to confirm that prior CIDs should be valid for future purchases of legacy spare items, and that such determinations be supplemented with value analyses to demonstrate the continued reasonableness of the prices and value of their commerciality.

IV. MAINTAIN A BALANCED APPROACH TO INTELLECTUAL PROPERTY RIGHTS

ISSUE:

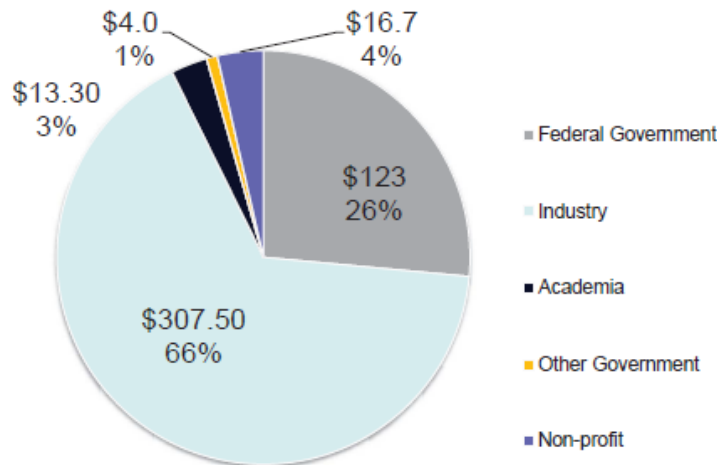
Government contracting policies have always recognized the importance of protecting contractor investments and intellectual property rights. These policies also recognize the government's need to acquire appropriate rights for maintaining equipment and competition. The government is required to determine the extent of its intellectual property needs and to pay reasonable prices for that intellectual property. In the 1980s, Congress conducted a comprehensive review of these policies to find an appropriate balance that recognized the interests of both industry and government. This balance took into consideration the changes in FASA, confirming the preference for the acquisition of commercial items. It also included a definition of commercial items that allowed for minor modifications to expand the government's ability to leverage the commercial marketplace and the investments of private industry in continuous product improvements.

Two significant legislative changes have undermined this balance to the extent that commercial companies are now questioning the value to industry of participating in the defense industrial base. This includes companies of all sizes, particularly small companies that are often the source of cutting edge innovation. One is the change in the presumption that a commercial item was developed at private expense (Section 802 of the FY 07 NDAA, PL 109-364, amending 10 USC 2321). Although this provision was later amended to exclude commercial off-the-shelf (COTS) items, it leaves at risk all commercial items with any minor modifications (Section 815(d) of the FY 08 NDAA, PL 110-181). The second legislative change (1) adds a requirement for industry to deliver proprietary technical data that is merely "utilized" in performance of a contract, if such data is needed to segregate an item or process from, or reintegrate that item or process with, other items or processes, and (2) broadens DOD's rights to release or disclose such proprietary data outside the government to third parties (Section 815 of the FY 12 NDAA, PL 112-81, amending 10 USC 2320).

DISCUSSION:

Now more than ever, the government needs to be able to buy commercial items and to benefit from commercial industry investments that DOD cannot afford to make. The Defense Business Board highlighted the growing importance of the commercial sector to our national defense in its report on "Innovation – Attracting and Retaining the Best of the Private Sector," dated July 24, 2014. The report notes that commercial investment in R&D far exceeds that of the federal government on an annual basis, with the government's share declining over the past several decades. This year alone, U.S. industry is expected to invest \$307.50 billion in R&D spending, two-thirds of all U.S. R&D spending, while the federal government as a whole is projected to spend \$123 billion, slightly more than a quarter of total U.S. R&D spending, citing a report by Battelle, "2014 Global R&D Forecast," from December 2013.

Projected US R&D Spending 2014



Source: Battelle "2014 Global R&D Funding Forecast" December 2013
These are the final briefing slides as approved by the Defense Business Board in the public meeting held July 24, 2014.

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DEFENSE BUSINESS BOARD

The following two areas include significant concerns with the changes in intellectual property law applicable to government contracts, with recommendations for change.

A. Restore the private expense presumption for commercial items.

Commercial items were presumed to be developed at private expense before the 2007 legislative change. This presumption was necessary to enable commercial item acquisition because commercial companies do not maintain records for the development costs of particular items based on customers or contracts. FASA recognized the challenge for commercial companies and created a predictable framework that encouraged commercial companies to do business with the government and incentivized further R&D investments to improve products for commercial and government business. Companies could sell commercial items to the government without fear of losing intellectual property that makes the company globally competitive and keeps the products both cutting edge and cost-effective with continuous improvements.

The elimination of the FASA presumption of development at private expense for non-COTS items shifted the initial burden to prove development at private expense to contractors and subcontractors, as opposed to the government having to rebut that an item was developed at private expense. In the event of a government challenge, contractors and subcontractors must demonstrate, with sufficient engineering and cost records, that commercial items were "developed exclusively at private expense" to protect their intellectual property rights (see 10 USC 2321(f)(2)). Commercial companies

can no longer be sure that their intellectual property rights will be protected, particularly with the rigid and overly broad implementation challenges exacerbating this shift in the burden of proof.

The implementation of the 2007 change in the presumption has led to requests for massive amounts of data, including data going back to the initial development of a commercial item, even if it was 50 years ago with decades of sales exclusive to the commercial marketplace. As a result, contractors and subcontractors have no assurances that prior investments will retain the protections afforded at the time the investments were made. Failure to provide the requested detailed financial and other data results in the contractor's loss of intellectual property rights. Commercial companies do not keep the records the government is demanding under the new framework. The result is that commercial companies risk losing their intellectual property even though they developed their products and intellectual property solely at their own expense and long sold their items in the commercial marketplace before selling to DOD.

Increasingly, subcontractors are raising concerns about offering the latest technology and considering whether to exit the defense market to forgo the significant intellectual property risk, regulatory burdens and expense associated with attempting to prove that a commercial item, years or decades in the making before ever being sold to DOD, was developed at private expense.

The implementing regulations shift the burden to contractors to prove commercial development for all new contracts and subcontracts for commercial items executed after the regulations were amended (including follow-on contracts and subcontracts), regardless of whether the underlying commercial items to be delivered pursuant to such new or follow-on contracts and subcontracts were already "developed" before the statutory changes, or were in the process of being developed before the statutory changes. Yet contractors and subcontractors do not develop commercial items or the underlying technologies thereto on a contract-by-contract basis. Instead, commercial items leverage technological improvements that have evolved in the commercial marketplace over the course of many years, spanning multiple decades and/or programs.

Under the current statutory and regulatory framework, contractors and subcontractors have no assurances that this burden shift will be effective only from the time of enactment forward. This is a problem because the breadth of data requested is greater than what is required to demonstrate the commerciality and price reasonableness of a commercial item. Although the source of development funding is generally irrelevant to a CID, DOD has nonetheless prescribed the application of noncommercial data rights clauses to commercial items modified with federal funding — even if such items continue to qualify as commercial items after such modification. These requests seek even more cost information than would be required under TINA to justify price reasonableness on commercial items. Commercial derivative products from dual-use production lines and companies who primarily sell in the commercial marketplace are critical to DOD's ability to buy affordable products. The result of this legislative change, exacerbated by its implementation, is a costly and unworkable technical data rights framework for commercial items.

In the past, DOD contracting officers had flexibility to negotiate special clauses if particular concerns were not covered by standard DFARS clauses. Today, contracting officers refuse to negotiate special clauses that have been used successfully for decades for the very same commercial items, and refuse to acknowledge that the basic item sold only in the commercial market for decades is presumed to have been developed at private expense.

B. Protect intellectual property rights while maintaining a competitive environment.

There was a further significant change to the ability of contractors to protect their intellectual property rights with the legislative change in Section 815 of the FY 12 NDAA, PL 112-81 (amending 10 USC 2320). This section included three major changes providing DOD the right to:

1. Compel contractors to deliver proprietary commercial and noncommercial technical data that is merely “utilized” in performance of a DOD contract;
2. Disclose such proprietary commercial and noncommercial technical data outside the government to third parties if the data is necessary for “segregation” or “reintegration”; and
3. Restrict contractors from receiving reasonable compensation for the delivery of, or the license rights the government would obtain in, such data.

With respect to the first item, Section 815 would expand current “deferred ordering” requirements by enabling DOD to compel contractors to deliver proprietary commercial and noncommercial technical data that is merely “utilized” in performance of a DOD contract, in addition to data that is first generated in performance of a contract. This expansion will exacerbate the current DOD practice of demanding the delivery of detailed specifications and drawings that are referenced in higher-level data deliverables. DOD has rejected the delivery of such higher-level data as a negotiating lever to force contractors to provide the more detailed “reference data.” This practice increases costs, affects schedule and hurts contractors’ performance.

The second issue relates to the undefined, new terminology in Section 815 that allows DOD to compel the delivery of proprietary technical data, and to release or disclose such data outside the government, if the data is “necessary for the segregation of an item or process from, or the reintegration of that item or process (or a physically or functionally equivalent item or process) with, other items or processes.” “Segregation/reintegration data” is a new concept that is not defined in Section 815 and has no clear meaning in U.S. government usage or in the defense and commercial industrial base, even though 10 USC 2320(b)(2) requires DOD contracts to identify technical data deliverables, and the delivery schedule thereto, with specificity.

Government representatives have described “segregation/reintegration data” as “interface data” that is similar to — but different from — form, fit and function data. Unfortunately, “interface data” also has no clear meaning or usage, and it remains unclear at which level in a DOD system such terms would be applied (e.g., subsystems, assemblies, subassemblies, parts and components) and at which level in a manufacturing or material process such terms would be applied. Further, because DOD routinely extends 10 USC 2320 to software, it is unclear what form or type of software

would be treated as that which is necessary for segregation or reintegration purposes (e.g., object code, application programming interfaces, source code). This lack of clarity and specificity in the statute introduces great uncertainty into the contracting process. To appropriately price a proposal effort, contractors need to understand which technical data (and software) will be delivered, and with what category of rights.

Third, Section 815 also added new language in 10 USC 2320(b)(9) that limits contractors' compensation for both the delivery of, and U.S. government license rights in, the proprietary commercial and noncommercial technical data that contractors may be compelled to deliver. Contractors have little recourse when subcontractors refuse to provide data that is invaluable and will not be provided at any price. This forces prime contractors to develop another solution to obtain the data, adding costs and schedule impacts that are of little value. New paragraph (b)(9) says that DOD will only compensate the contractor "for reasonable costs incurred for having converted and delivered the data in the required form." We understand the intent of (b)(9) is to establish limitations on contractors' compensation for both the "delivery" of proprietary technical data pertaining to items or processes developed exclusively at private expense that have merely been "utilized" in performance of the contract and the associated "rights" in such data — such as license fees, royalties and other similar charges. The legal basis for acquiring such license rights in technical data pertaining to items or processes developed exclusively at private expense and with no federal funding — without reasonable and just compensation for such rights — is unclear.

Finally, more than two years have passed since Section 815 was enacted into law, and DOD continues to have difficulty defining the data that is needed, and has not yet published a proposed rule to implement it. This exemplifies the challenges and complexities associated with implementing the legislation. As Congress performs a review of the defense acquisition system, it should repeal Section 815 until such time as a more succinct problem statement can be defined, and more narrowly tailored legislation can be proposed to solve it.

RECOMMENDATIONS:

- Repeal Section 802 of the FY 07 NDAA to restore the presumption that commercial items are developed exclusively at private expense.
- Repeal Section 815 of the FY 14 NDAA and require DOD to appoint a panel of experts from government, industry and academia for the purposes of defining a more specific problem statement and a narrowly tailored legislative or regulatory solution.
- The panel recommended above should also propose legislative changes to 10 USC 2320 and 10 USC 2321 that would:
 - Simplify and streamline technical data rights laws and policy,
 - Reduce the regulatory burden on commercial suppliers and small businesses,
 - Incentivize private R&D investments, and
 - Align technical data rights laws and policy with commercial item acquisition laws and policy.

V. EXPAND ACCESS TO THE COMMERCIAL SUPPLY CHAIN

A. Minimize Mandatory Flow-down to the Commercial Supply Chain

ISSUE:

Government-unique subcontractor flow-down requirements act as barriers to market entry, and limit the government's access to commercial supplies and services in support of a prime contract. The law limits the flow-down requirements for commercial items to those critical few in which the cost of compliance clearly outweighs the impact to suppliers and the industrial base. Limiting flow-down requirements is critical to enabling companies to reduce overhead and other contract costs, and adds costs to both direct and indirect costs for both prime contractors and subcontractors. The requirements also become cost-prohibitive for some suppliers who will either exit the government marketplace or decide not to enter in the first place. The number of requirements that have to be flowed down to subcontractors has grown significantly in recent years, with limited assessment of cost impact. Limiting flow-down requirements will provide substantial savings in cost and schedule.

DISCUSSION:

Mandatory flow-down of unique government clauses and policies causes companies supplying commercial supplies and services to incur costs that are not required for commercial customers and thus makes these companies noncompetitive in the commercial marketplace. Commercial suppliers do not have complex systems that are geared to meeting detailed requirements for a particular customer. Commercial companies have streamlined processes that are not tailored to contracts. Contract-unique requirements that must be implemented through business systems impose a burden on all business of a commercial company. This extra cost burden makes a commercial company's products noncompetitive against companies not having to comply with government-unique requirements. Federal contracts and subcontracts are regulated by a host of unique statutes and regulations not applicable to commercial buyers and sellers. The failure to comply with all the requirements is considered a contract breach, subject to remedies and risk of administrative, criminal and civil penalties. To meet all the subcontracting requirements, prime contractors must flow down a variety of unique requirements to their supply chain, including to suppliers of commercial and COTS items and services, even though 41 USC 1906, 1907, 3307 and 10 USC 2377 all expressly limit the number of provisions authorized for flow-down to subcontractors or suppliers of commercial and COTS items, and create a process to document why adding a new clause to commercial and COTS item contracts and subcontracts is in the best interest of the government.

For many years, the government complied with the statutory limit on unique clauses enacted in 1994. Clauses seem to routinely require flow-down throughout the supply chain. In just the last 12 months the following such clauses have been implemented, increasing prime and subcontractor direct and indirect costs:

- (1) Requirements for companies at all tiers of a contractor's supply chain to have a system to detect and avoid counterfeit electronic parts.

- (2) Requirements by each tiered contractor to report on the number of subcontractor employees providing “services” to any higher-tiered contractor.
- (3) Requirements to report on the executive compensation of lower-tiered subcontractors.
- (4) Requirements to report to federal databases all nonconforming items at each tier in the supply chain.
- (5) Requirements to disclose and mitigate subcontractor employees’ personal conflicts of interest.
- (6) Final disposition of rules limiting profits or fees incurred by prime contractors to manage subcontract costs.

The costs incurred by each prime contract market participant to manage compliance by each subcontractor on each mandatory flow-down clause have had significant financial effects on the acquisition system, increasing costs and reducing profits and competition.

The following partial, noninclusive clause list requires flow-down by prime contractors for commercial and COTS items in contravention of the statutes at 41 USC 1906, 1907, 3307 and 10 USC 2377 that set out the authority and analysis process needed for DOD to apply unique regulations to the procurement of commercial and COTS items:

DFARS 252.211-7003, Item Unique Identifier and Valuation

DFARS 252.211-7008, Use of Government-Assigned Serial Numbers

DFARS 252.223-7008, Prohibition of Hexavalent Chromium

DFARS 252.225-7009, Restriction on Acquisition of Certain Articles Containing Specialty Metals

DFARS 252.225-7012, Preference for Certain Domestic Commodities

DFARS 252.225-7039, Contractors Performing Private Security Functions

DFARS 252.227-7015, Technical Data--Commercial Items

DFARS 252.227-7037, Validation of Restrictive Markings on Technical Data

DFARS 252.234-7002, Earned Value Management System

DFARS 252.236-7013, Requirement Competition Opportunity for American Steel Producers, Fabricators, and Manufacturers

DFARS 252.237-7010, Prohibition on Interrogation of Detainees by Contractor Personnel

DFARS 252.237-7019, Training for Contractor Personnel Interacting with Detainees

DFARS 252.244-7000, Subcontracts for Commercial Items (ambiguous as to application)

DFARS 252.244-7001, Contractor Purchasing System Administration

DFARS 252.246-7003, Notification of Potential Safety Issues

DFARS 252.246-7007, Contractor Counterfeit Electronic Part Detection and Avoidance System

DFARS 252.247-7023, Transportation of Supplies by Sea

DFARS 252.247-7024, Notification of Transportation of Supplies by Sea

DOD Memorandum (dated Nov. 28, 2012), Contractor Manpower Reporting Clause

The compliance costs include the cost for prime contractors, subcontractors and suppliers to implement compliance systems, including the people and processes to mitigate the risks of noncompliance. Any single noncompliance by any single subcontractor or supplier caused by such unique flow-down clauses to acquire commercial and COTS items is an enormous risk both in terms of cost and reputation. The standard of compliance is generally zero tolerance. The impact on small businesses is captured by the president of C4 Associates:

C4 Associates is a small business specializing in consulting services for clients striving to keep counterfeit parts out of the hands of their customers, complying with regulatory flow downs all while breaking through barriers towards expanding their service offerings. Implementation of detailed process controls is the foundation for quality assurance, which will eventually lead to Total Customer Satisfaction. We provide services to both commercial and defense clients with revenues less than \$100 million and manage an associate base of 35. When our clients contract with a defense company, they are burdened with 3-7 additional non-value added mandatory flow-downs, including specialty metals provisions (depending on their product) that cost them on average \$100,000 dollars plus time, redirecting funding from R&D, hiring people etc. Additionally, most need to keep additional resources on staff just in case there's a government audit that provides no value to the rest of their business.

I have been in the manufacturing world for over a decade and can attest to the same constraints in my prior work life, so when I discuss these ongoing challenges with my current customers, the thought of additional audits or compliance requirements only sparks the discussion of raising costs again to stay afloat. – Craig Pfefferman, President, C4 Associates, Inc.

RECOMMENDATION:

We recommend that Congress enact legislation to require DOD to review the underlying authorities for the clauses above and any other relevant clauses not specifically identified herein, and eliminate the flow-down requirements unless specifically mandated by law. If implementation of the clause did not comply with the written determination process in 41 USC 1906, 1907, 3307 and 10 USC 2377, DOD must be required to immediately suspend any regulatory requirements for flow-down to commercial or COTS subcontracts, subject to further regulatory action as required. DOD must be required to document its determination in writing that the inclusion of a new contract clause in commercial and COTS item contracts and subcontracts is in the best interest of the government; the written determination must be posted online at a government-wide information portal alongside the policy prescription that directs the clause inclusion.

B. Streamline the Acquisition of Commercial General Procurement Items

ISSUE:

All companies buy commodities for production and operations that do not relate in any way to a particular customer or customer requirements. This is generally referred to as general procurement of commodity items purchased in the ordinary course of business, and is a standard commercial practice. The proliferation of the application of unique terms and conditions as flow-down requirements on government contracts has created a uniquely problematic situation for these general procurement items. The suppliers are not subcontractors on any particular program, and no specific contract is yet known for purposes of the ultimate use of the commodity. The flow-down requirements should not be applied in these situations.

Some statutes and regulations governing federal procurements expressly state that they apply to commercial subcontractors or suppliers. For example:

- FAR 52.244-6, *Subcontracts for Commercial Items*, subparagraph (d): “The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.”
- DFARS 252.227-7015, *Technical Data – Commercial Items*, subparagraph (e): *Applicability to subcontractors or suppliers*. “(2) Whenever any technical data related to commercial items developed in any part at private expense will be obtained from a subcontractor or supplier for delivery to the Government under this contract, the Contractor shall use this same clause in the subcontract or other contractual instrument, including subcontracts and other contractual instruments for commercial items, and require its subcontractors or suppliers to do so, without alteration, except to identify the parties. This clause will govern the technical data pertaining to any portion of a commercial item that was developed exclusively at private expense, and the clause at [252.227-7013](#) will govern the technical data pertaining to any portion of a commercial item that was developed in any part at Government expense.”

These examples raise an issue about the application of the ever-increasing number of flow-down requirements for general procurement of commodity items purchased in the ordinary course of business, not identifiable to a prime federal contract. These purchases are not “subcontracts” in support of a specific government contract, but rather are suppliers, who are supplying items to their customer with no regard as to whether or not the item is in support of a government contract.

DISCUSSION:

The use of the term “subcontracting” is generally interpreted too broadly, and should not include general procurement of commodity items not bought for a particular contract. FAR Part 44, *Subcontracting Policies and Procedures*, states that its scope is specific:

44.000 Scope of part.

This part prescribes policies and procedures for consent to subcontracts and for review, evaluation, and approval of contractors’ purchasing systems.

Subpart 44.4 also addresses the flow-down of certain clauses required by statute or executive order to subcontracts for commercial items. Guidance on what subcontracts are intended to be covered by these requirements does not apply to suppliers that are not selling for a prime contractor or subcontractor, though the guidance is not as clear as it could be.

44.101 Definitions

“Subcontract,” as used in this part, means any contract as defined in Subpart 2.1 entered into by a subcontractor to furnish supplies or services for performance of a prime contract or a subcontract. It includes but is not limited to purchase orders, and changes and modifications to purchase orders.

“Subcontractor,” as used in this part, means any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a prime contractor or another subcontractor.

The definition of “subcontract” in 41 USC 1906(c) is implemented verbatim in FAR 44.401 and states that “subcontract” has the same meaning as defined in FAR Part 12 that includes interdivisional transfers. Supplies purchased as part of general operations for a company, not identified with any government contract, are typically provided from existing inventory for use on a government contract through an interdivisional transfer when needed. This creates confusion by implying that commodities that are not “subcontracts” suddenly become a “subcontract” on a government contract when an item is transferred through an interdivisional order to a government contract.

These definitions create ambiguity with respect to general procurement purchases of commodities that are later used on a government contract. “Supplies for performance of a prime contract” would not seem to include commercial supplies purchased by a manufacturer or contractor in support of a steady production rate of commercial items, when any particular end item could go to any customer around the globe. Moreover, for manufacturers of commercial items, the requirement to flow down government prime contract requirements on general procurements of commodity items is impractical for a variety of reasons and is not supported by sound policy rationale:

1. General procurement contracts or purchase orders for commodity items are often long-term and are placed for the purpose of acquiring supplies to support commercial production rates or for spares inventory over long periods of time. Sourcing decisions have been made unrelated to any particular contract, long before government contract requirements are even known to the prime contractor. It is not possible to retroactively revise company-wide long-term agreements to add unique new requirements for one customer, without significant cost and potential disruption or loss of a supplier.
2. General procurement source selections for commodities are unrelated and often precede by months or years the award of a government prime contract. Even if the initial commodity agreement does not predate the government prime contract, it is not possible to identify what items will support a government contract as opposed to ongoing commercial production rates. In other words, a

general procurement agreement for commodities is not a "subcontract under the Government prime contract." The only practical way for a manufacturer of commercial items to ensure compliance in these circumstances is to flow down government requirements in *all* purchase orders, even if 99 percent of the factory's output will be sold to parties other than the government. This cost cannot be absorbed on the commercial products sold in competitive global markets.

3. The manufacturer and its commodity suppliers have agreed on the price for such commodities before the award of the government contract on which they might later be used. The terms of that long-term agreement do not include government-unique terms and conditions that are not applicable in the commercial marketplace.
4. The commodity supplies typically have already been ordered and placed in a stock bin before any government contract award.

It is commercially impractical and economically infeasible to set up parallel production and procurement systems for commodity common parts and components.

RECOMMENDATION:

Congress should amend 41 USC 264 (Sec. 8002 of FASA) to clarify that laws and regulations applicable to government contracts do not have to be flowed down on general procurement agreements for commodities bought for a commercial production line unrelated to any particular government contract, even though some of the items may eventually be used on a government contract. We recommend the following changes:

41 USC 1906, "List of Laws inapplicable to procurements of commercial items," should be revised as follows (new language underlined in italics in bold):

(c) Subcontracts.—

- (1) Definition.—In this subsection, the term "subcontract" includes the transfer of commercial items between divisions, subsidiaries, or affiliates of a contractor or subcontractor; **agreements or contractual transactions entered into by a supplier for commodity supplies or services not identifiable to a prime contract at the time of purchase shall not be treated as "subcontracts."**

Pursuant to that legislative change, the relevant definitions in the FAR should be revised as follows:

44.101 Definitions

"Subcontract," as used in this part, means any contract as defined in Subpart 2.1 entered into by a subcontractor for the specific purpose of furnishing supplies or services for performance of a prime contract or a subcontract. It includes but is not limited to purchase orders, and changes and modifications to purchase orders. **It does not include any agreements or contractual transactions entered into by a commodity supplier for supplies or services not identifiable to a prime contract at the time of purchase.**

“Subcontractor,” as used in this part, means any supplier, distributor, vendor, or firm that furnishes supplies or services for performance of a prime contract or a subcontract and which supplies or services are **identifiable to a specific prime contract or subcontract.**

VI. EXPAND THE APPROPRIATE USE OF PBL

ISSUE:

Boeing has a long history of providing support to DOD and international customers through long-term PBL agreements. These include specific metrics and incentives for improved readiness with innovation and cost reductions over the life of the program. Sustainment and logistics support of DOD aircraft using PBL arrangements offers the best solution for achieving the desired readiness levels at lower cost, compared to the transactional contracts.

The advantages of PBL for logistics and sustainment are increased when applied to commercial derivative systems. One of the advantages of long-term agreements comes from leveraging a large commercial global supply chain to maximize system readiness and drive down cost. The investment in commercial products, the global repair stations and distribution network are just a few of the benefits of leveraging a commercial derivative model for PBL.

Boeing supports DOD's initiative in Better Buying Power 2.0 and 3.0 to increase the effective use of PBL arrangements. DOD's Project Proof Point includes a summary of all the benefits of PBL contracts. We are concerned, however, that in spite of DOD's positive outcomes, there is a downward trend in awarding PBL contracts. However, we recognize that "one size may not fit all." For this reason, we look forward to the report requested in the Senate Armed Services Committee report on the FY 15 NDAA (S. 2140, Senate Report 113-176), due from DOD on Jan. 5, 2015, on the current trends regarding PBL arrangements. That report also includes a number of examples of successful PBL arrangements providing hundreds of millions of dollars in savings and with across-the-board increases in capability. This will provide insights in any root causes that are deterring DOD from greater use of PBLs, notwithstanding its clear policy favoring them.

Both organic and industry capabilities have an important role in ensuring readiness, with PBLs as well as with other arrangements. We also appreciate the language in the House Report (H.R. 4435, House Report 113-446) requiring DOD to provide full visibility into the scope and scale of partnerships because of the critical role that proper oversight plays in industrial base sustainment. This report is due Jan. 5, 2015, with details on all partnerships entered into pursuant to 10 USC 2474, for FY 14 and the three preceding years. The report will provide critical information on the trends in partnering and the details, including location of the work performed under the partnership, the commercial and organic entities comprising the partnership, the length of the partnership and a description of the work performed.

DISCUSSION:

PBLs allow the best of the commercial and organic capabilities to coordinate their roles to maximize the benefits and hold all parties accountable for optimized readiness. We support the use of business case analyses in determining the most effective means of support for weapon systems. Well-done business case analyses can drive accountability for performance by identifying appropriate performance metrics. Such metrics are required in awarding successful PBL contracts. Our experience with the

Air Force C-17 PBL shows that we exceeded the required readiness rate for 10 consecutive years while reducing cost by 29 percent, resulting in \$1.1 billion in savings for the Air Force. With the Army, under the AH-64 Apache PBL, we reduced cost by 24 percent, resulting in \$100 million in savings. In both cases, we worked with the services to ensure that the metrics selected drove positive incentives to achieve the required results.

Our experience further shows that long-term (longer than the three years typical today, or the five-year statutory limit on service contracts) PBL sustainment contracts provide additional incentives to industry to invest capital to improve readiness — the longer the terms of the contract, the more time industry has to recover its investment costs and consequently it is motivated (assuming appropriate performance metrics aligned with incentives are in place) to keep investing to achieve performance improvements.



The United Kingdom's Through Life Customer Support (UK-TLCS) arrangement to support its fleet of Chinook helicopters is an example of a long-term PBL contract that provides incentive for industry to invest to enhance system effectiveness. Boeing is executing a 34-year PBL sustainment contract with the UK Ministry of Defence. The contract is in its eighth year, and the results so far include a 12 percent increase in system availability and a 50 percent increase in flying hours; moreover, the program has yielded cost reductions of more than 10 percent since 2006 and a reduced maintenance cycle time of 58 percent. Although UK-TLCS is a very-long-term agreement, contractors can be motivated to invest in performance over shorter time frames. Contracts for five years or more generally provide sufficient time for industry to assess the system and make the right investment decisions to ensure system readiness throughout the contract. Three-year contracts are so short from an investment perspective, that they set conditions for which it is very difficult for industry to recover its costs.

The right metrics between the U.S. government and industry are very important for PBL success. PBL goals must be clearly understood by both parties, established at the appropriate level, designed to support specific goals and aligned with appropriate incentives. The higher the level of the metric, the more flexibility it will offer the PBL sustainment team. For example, the metric for the C-17 Globemaster III Integrated Sustainment Program is system readiness; it requires an overall readiness rate of

80 percent. Through proper alignment of incentives, it has driven actual readiness to 90 percent.

We encourage DOD to use performance-based arrangements whenever possible and recommend the following legislative changes to support the goal of reducing cost and retaining an incentivized and competitive supply base.



RECOMMENDATION:

We recommend the following changes to Title 10 of U.S. Code to improve the cost efficiency and effectiveness of logistics and sustainment.

Amend 10 USCS 2366b to require consideration of performance-based life cycle product support planning, development, implementation and management as a strategy to affordably and effectively satisfy warfighter requirements for equipment readiness:

§ 2366b. Major defense acquisition programs: certification required before Milestone B approval

Insert a new paragraph (a)(3)(F):

(F) performance-based life cycle product support planning, development, implementation, and management have been considered as strategies to affordably and effectively satisfy warfighter requirements for equipment readiness;

Renumber existing paragraphs (F) and (G) as (G) and (H).

Add a new section to Title 10, Chapter 146, to reinforce the role of public-private partnerships and PBL as tools to assist the military departments in re-engineering and adopting best business practices, and to require the military departments to report the results of their efforts to Congress.

§ xxxx Public-private partnerships and effective performance-based life cycle support.

- (a) The Secretary of the Military Department concerned, or the Secretary of Defense in the case of a Defense Agency, shall consider effective performance-based life cycle product support planning, development, implementation, and management as strategies to affordably and effectively satisfy warfighter requirements for equipment readiness.
- (b) The Secretary of Defense shall provide the congressional defense committees with an annual report summarizing the use by the military departments of performance-based life cycle product support, planning, development, implementation, and management.

Report Language

A new section was added to Chapter 146 of Title 10 to emphasize the importance of existing DOD policy requiring a strategic approach for planning, development, implementation and management of depot-level maintenance and repair and logistics support. This ensures that the entire life cycle costs are considered, including the readiness outcomes that will be achieved. These are outcome-based support strategies that plan and deliver an integrated and affordable performance solution designed to optimize system readiness.

VII. INCREASE THE COST-EFFECTIVENESS OF OVERSIGHT

ISSUE:

In recent years, acquisition oversight and compliance requirements have grown dramatically through the implementation of increased statutory, regulatory and policy changes. Many of the changes are related to social policies that are being implemented through contract compliance requirements instead of through direct government action on policy concerns. The detailed implementation of this plethora of contract and social policy has created a highly complex and costly system of oversight. The cost of contractor compliance and the cost of government oversight often outweigh the benefit of the regulation. The cost to the government is also not factored in to the total cost impact of such requirements. In an increasingly austere budget environment in which DOD leadership is calling for more simplification, affordability and reduced costs in government buying programs, a cost-effectiveness analysis on more reasonable government oversight tailored to achieve the intent of the requirements must be a consideration for simplification and cost reductions.

DISCUSSION:

Require Contractors to Maintain Cost Visibility at a Reasonable Level. It is important to ensure that the taxpayer is getting value for dollars spent on government contractors. The default is often to require the highest level of detail in costs, with no consideration of the implications throughout the supply chain, or type of contract, or risk. The level of detail drives significant costs, and a cost/benefit analysis should be conducted before detailed requirements are imposed.

For a typical defense industry prime contractor, compliance with federal and DOD acquisition statutes and regulations requires establishing a number of government-unique business systems. These systems are necessary for recording, tracking, analyzing, reconciling and reporting costs at an appropriate level of detail to ensure compliance with the Cost Accounting Standards (CAS, 41 USC, Chapter 15) and TINA.

This level of cost detail is driven into the proposal, execution and transaction phases of a contract with multiple cost accounts created to segregate cost. Depending on the complexity of the contract and the reporting requirements, the number of cost accounts can grow exponentially. The

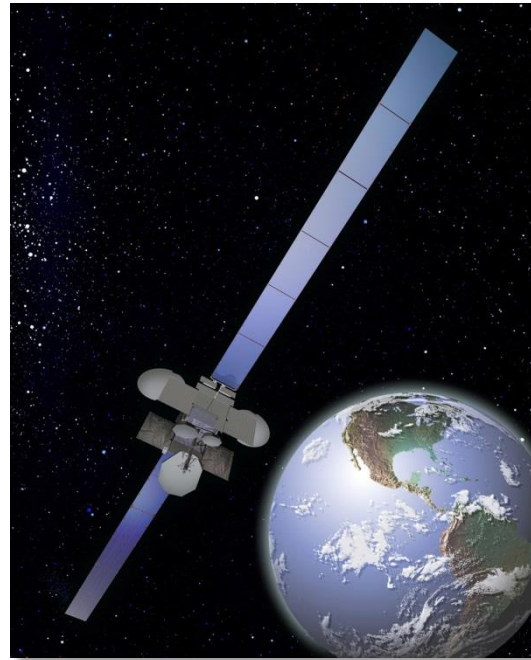
Boeing's Wideband Global Satellite

By adopting commercial-like practices that significantly reduced government oversight, the government was able to drive **\$150 million** of cost out of its recent satellite purchase while achieving the **same mission capability**:

- Reduced the number of CDRLs.
- Reduced cost reporting by using firm-fixed-price rather than cost-type contracting.
- Reduced the number of government officials on site.
- Reduced or tailored contract compliance documents.

government cost principles (FAR Part 31) also establish specific requirements regarding the allowability of many costs when doing business with the government that must also be segregated.

Significant levels of detailed cost and pricing data are also required to support proposal analysis and performance reporting after contract award. It is not uncommon for the cost volume of a major proposal to grow to hundreds of pages to comply with the requirements of the solicitation. Often, solicitations request price breakdowns and supporting substantiation arranged in multiple formats: by government fiscal year and calendar year, in base-year and then-year economics, by nonrecurring versus recurring costs, by contract line item number (CLIN) and sub-CLIN, and by low levels in the Work Breakdown Structure (WBS). This same level of detail applies in varying degrees throughout the supply chain. As a result, proposal cycle times have increased significantly, thereby driving extensive cost and delaying access by the government to products and services. It is common for a major proposal to take 18 months or longer to prepare. Moreover, during this time the data must be kept current, accurate and complete, which triggers updates and multiple audits and cost/price analyses at various levels of the supply chain.



Most recently, informal DOD policy changes have driven a requirement for even more cost or pricing detail, such as requirements for contractors to provide raw recorded cost data from multiple prior year contracts, including firm-fixed-price contracts that are excluded from government examination in FAR 52.215-2, *Audit and Records*. Although contractors typically provide the relevant meaningful underlying historical cost data used as the basis of estimate for the projected costs in their TINA-compliant proposals, the requested supplemental data that often reflects noncurrent economic and business base conditions tends to generate excessive additional reconciliations and analyses with no clear benefit to arriving at a fair and reasonable price for future work.

Although this level of detail may be appropriate, the question lies in whether the benefit gained from the data outweighs the cost involved. Individual cost reporting requirements and oversight often seem minor when evaluated alone, but the cumulative impact of all these detail-focused requirements is overly burdensome and drives extensive cost and time into the acquisition process.

Compliance With TINA. TINA was established to ensure that the government purchases supplies and services from responsible sources at fair and reasonable prices. This objective is almost exclusively accomplished by obtaining detailed cost or pricing data from prime contractors and suppliers. This data is both costly and time-consuming for the supplier to prepare and the government to audit and analyze.

Generation of supplier proposals, related analyses and audits is the primary contributor to lengthened acquisition process cycle times.

With DOD's recent release of Better Buying Power 3.0, which highlights the government's continued focus on eliminating unproductive processes, reducing cycle times and streamlining documentation requirements and staff reviews, a review of the policies and regulations surrounding TINA is warranted. TINA compliance should promote an appropriate risk-based balance between the government's desire for detailed supporting cost data and its desire to drive more efficiency into the proposal process.

1. *TINA threshold.* A review of procurement bill of materials (PBOM) data for many prime contract acquisition efforts yields a classic Pareto distribution of results with a relatively small percentage of supplier proposals representing a large percentage of the PBOM value. Focusing the bulk of analysis on this small percentage of supplier proposals would substantially reduce time and costs with no significant increase in risk in the process. The current TINA threshold does not achieve maximum cost-effectiveness.

To demonstrate this point, Boeing analyzed the bill of materials on three major DOD production programs. For simplification of discussion, the analyses of the three programs have been combined, but the individual program results are consistent with the combined analysis. For the three programs combined:

- 70 percent of the bill of material dollars was covered in just 20 of the total 739 suppliers (3 percent of suppliers).
- 95 percent of the bill of material dollars exceeded the current TINA threshold of \$700,000, requiring 115 TINA-compliant supplier proposals and prime contractor cost analyses (15 percent of suppliers).
- 88 percent of the bill of material dollars would be covered by TINA if the threshold was raised to \$2 million, requiring only 79 TINA-compliant supplier proposals and prime contractor analyses (11 percent of suppliers) — a 30 percent reduction in effort with only 7 percent fewer bill of material dollars covered.

Although this analysis reflects only three major programs, it offers some concrete data points to draw from for continued analysis of the appropriate level for the TINA threshold that achieves maximum cost-effectiveness.

2. *Alternative estimating techniques.* In addition to revisiting the TINA threshold, using price analyses, parametric estimating techniques and/or historical data in lieu of generating detailed supplier cost proposals for these high-value suppliers would reduce costs and acquisition cycle time without significantly reducing the percentage of the prime contractors' priced bill of material covered by TINA-compliant supplier proposals. Numerous FAR provisions allow the use of other estimating techniques for suppliers that exceed the TINA threshold, including FARs 15.402, 15.404-1(a)(1) and 15.404-3(c), and Table 15-2, Note 1. Additional support can be found in DFARS 215.215-7002(d)(ix) and (xv); DCAA *Contract Audit Manual* (CAM), Section 5-1209.1(a)(3, 5 and 6); and CAM 5-1209.3(a) and

(b). We have found that these techniques are rarely acceptable to DCAA, and we continue to have to revert to costly detailed cost and pricing data.

3. *TINA waivers.* A related option that could significantly reduce the amount of detail and time in arriving at a reasonable price settlement, namely the prudent use of “TINA waivers,” was effectively foreclosed for DOD by Section 817 of the FY 03 NDAA (PL 017-314), as implemented in DFARS 215.403-1c(4)(A)(1). The added waiver criterion that “The property or services cannot reasonably be obtained under the contract, subcontract, or modification, as the case may be, without the grant of the exception or waiver” effectively means that defense contractors who can comply with TINA must do so, regardless of whether the contracting officer may have years of cost history from which to determine price reasonableness of the next buy, with no need to obtain extensively detailed proposals and other data from the contractor. The waiver discretion that was accorded to DOD Heads of Contract Activities before the FY 03 NDAA, as shown in FAR 15.403-1(c)(4), should be restored. The acquisition lead time could be cut in half, compared to a prior year when TINA compliance was not waived, without increasing risk to the government.

Business Systems Rule. Another recent example of increased burden to the cost of DOD acquisition is the adoption by DOD of the business systems rule (DFARS 242.70), which provides for added oversight of contractor business systems, particularly accounting and estimating, but also affecting Earned Value Management Systems (EVMS), Material Management and Accounting System (MMAS) and purchasing systems. In response to the Commission on Wartime Contracting (CWC) recommendations, Congress directed DOD to promulgate regulations mandating standards and noncompliance penalties related to the six business systems that apply to all CAS-covered contracts. The result has been system audits that are lengthy and costly.

The heightened oversight associated with the contractor business systems rule grew out of recommendations from the CWC, in response to allegations of billions of dollars of lost or unaccounted funds in Iraq and Afghanistan. Yet by defining the term “covered contract” as all CAS-covered contracts, Congress applied added oversight and compliance burdens to contractors and contracts when no indication of any similar problems exists. This effectively drives up cost for all defense contractors to address the failings of a narrow subset of defense contractors operating in extraordinary circumstances examined by the CWC. A more targeted application of new business system rules could address the problems identified by the commission without generating increased costs across the entire defense industry.

Commercial Business Versus Defense Business Requirements. Finally, we note that the gap in the level of detail required between a commercial entity and a defense contractor to transact and execute business is immense and growing. Studies repeatedly show that adding unique government requirements on commercial companies drives a significant premium cost into the commercial products and services acquired by DOD compared to that for items of equivalent complexity in the global commercial marketplace. This differentiation underscores a target for opportunity to the government’s advantage in driving down costs by adopting more commercial-like practices that involve far less oversight.

The magnitude of this opportunity is illustrated in the headcount differences between the business support staff at Boeing Commercial Airplanes and Boeing Defense, Space & Security business units. Boeing's defense business employs more than four times as many people to manage contracting than Commercial Airplanes does. Similarly, the finance functions, including accounting, financial operations, estimate and supplier analysis at Commercial Airplanes operate with nearly half the headcount of the defense business. Yet, Defense, Space & Security generates one-third less revenue than Commercial Airplanes. Recognizing that the work scope in the two business units may not be perfectly aligned, the difference is still significant.

In summary, each of the above rules and practices can individually drive significant cost and delay into the defense acquisition process, especially as compared to equivalent commercial approaches. Collectively, their effect on the sheer amount of detail required is reflected in growing overhead costs and in cycle times for negotiations or audits measured in years rather than months or days. Now is an opportune time to step back and take a hard look at the various laws, regulations, policies and practices that are driving an ever-increasing level of detail into the defense acquisition system, and to identify solutions, using more commercial practices as a model.

RECOMMENDATIONS:

- (1) **Cost-effectiveness analysis.** Congress should direct DOD to conduct a comprehensive cost-effectiveness analysis on the cumulative impact of all the detailed data and analyses driven by the collective requirements of CAS, TINA, cost principles, RFP requirements such as low-level WBS visibility, and other recent informal DOD proposal or fact-finding policies. Suggested elements of the analysis should include the relative costs and benefits of CAS versus GAAP, current TINA threshold versus a higher threshold (and/or restoration of TINA waivers) and accounting for unallowable costs.
- (2) **Realistic cost impact assessments.** Congress should require OIRA to demonstrate consultation with trade associations and/or industry when developing the anticipated cost impact of any proposed regulation.
- (3) **Revisit the TINA threshold.** Congress should conduct a cost/benefit analysis on the current TINA threshold of \$700,000 and pursue a one-time adjustment to reflect a new higher threshold (subject to periodic adjustment for inflation) that minimizes administrative effort while still protecting the government's interest. Boeing recommends a \$2 million threshold.
- (4) **Promote the use of alternative estimating techniques.** Congress should direct DOD to distribute guidance stating that the use of parametric estimating techniques and historical data to support TINA-covered supplier cost is acceptable and encouraged. Training on understanding and evaluating the output of these techniques should be incorporated into DAU coursework.
- (5) **Reinstate TINA waivers.** Congress should delete the following language limiting TINA waivers, added in Section 817 of the FY 03 NDAA (PL 107-314) changes, as implemented in DFARS 215.403-1c(4)(A)(1):

“The property or services cannot reasonably be obtained under the contract, subcontract, or modification, as the case may be, without the grant of the exception or waiver;”

- (6) **Execute on industry recommendations.** Congress should task DOD to develop recommended statutory, regulatory and policy changes based on the recommendations received from industry (Boeing and multiple trade associations) in response to DOD’s Feb. 12, 2014, Request For Public Input for a review of DOD acquisition-related statutory and regulatory requirements that drive inefficiencies, lost opportunities and/or increased costs.

SUMMARY — AFFORDABLE CAPABILITY AND INNOVATION

Recent world events show that the security threats to our nation can shift at bewildering speed. It is imperative that we use speed in delivering winning capabilities as efficiently and effectively as possible. This can be achieved only by the exercise of sound business judgment, minimizing risk and ensuring transparency, while maximizing access to and use of commercial practices, products and services.

The seven areas we identified are intended to streamline acquisition processes through commercial best practices that drive more innovation, improve accountability, and provide more affordable capabilities.

To summarize, we offer suggestions that:

Enable a culture of empowerment and innovation. An empowered, better prepared workforce can foster innovation both inside DOD and in its suppliers.

Incorporate commercial best practices in the requirements process for affordability, innovation and agility. A quicker, less bureaucratic requirements process can enable DOD to leverage emerging technology at affordable prices.

Ensure access to commercial items and services through streamlined acquisition. Eliminating added bureaucracy and adopting alternative value-based methods of pricing commercial products can lower barriers to entry, enabling new competitors to do business with DOD.

Protect intellectual property rights while enabling competition. Ensure a balanced approach that recognizes both private industry investments and provides DOD with tools to acquire the rights it needs for life cycle competition.

Expand access to the commercial supply chain. Minimize the flow-down of government-unique requirements to commodity suppliers and commercial companies that provide a larger defense industrial base with access to lower prices, thus leveraging global infrastructures and business bases.

Expand the appropriate use of PBL. Enable strategic PBL deployment, including expanding partnerships with industry and DOD organic capabilities to achieve maximum readiness for the warfighter.

Increase the cost-effectiveness of oversight. Risk-based oversight can reduce costs while ensuring oversight without significantly increasing risk to DOD.

Boeing and its thousands of suppliers, many of whom are primarily commercial companies or small businesses, are here to assist DOD to meet this imperative. This set of recommendations provides specific suggestions to enable DOD to benefit from the investments and innovations of commercial companies, leverage the undeniable principles of market-based competition, and drive down costs while delivering more capability for less. Amid the defense downturn, DOD must continue to work with the commercial industrial base to retain access to the latest technologies and to maximize competition. Boeing looks forward to working with the Congress, DOD, our suppliers, and industry to ensure that affordable capabilities are available to support the warfighter.

