

# Guidelines

## For Creating and Maintaining a Competitive Environment for Supplies and Services in the Department of Defense



Office of the Under Secretary of Defense  
for Acquisition, Technology, and Logistics

August 2014

# Table of Contents

	<u>Page</u>
1. Background .....	1
2. Why is Competition Important?.....	1
3. Impediments that Preclude the Department from Competing more than it does.....	2
4. Creating and Maintaining a Competitive Environment	
a. General Techniques and Approaches.....	3
b. Open Systems Architecture.....	6
c. Intellectual Property Strategy .....	8
d. Competition in Developmental Programs.....	11
e. Competition for Weapon System Production .....	12
f. Competition in Acquisitions for Services .....	16
g. Competition for Commodities .....	19
h. Indirect Competition .....	20
5. Summary .....	21
6. Acknowledgements.....	21
7. Bibliography .....	22

## BACKGROUND

These guidelines were developed as a result of the Under Secretary of Defense, Acquisition, Technology and Logistics (USD/AT&L) Better Buying Power 2.0 (BBP 2.0) – *Achieving Greater Efficiency and Productivity in Defense Spending* initiative in which seven areas were identified for achieving greater efficiency and productivity in defense spending. Area 5, entitled “Promote Effective Competition,” further identified “emphasizing competition strategies and creating and maintaining competitive environments as an opportunity for improving our competitive posture within the Department.” These guidelines are intended to complement and work in concert with the four overarching principles identified in BBP 2.0 to: 1) think and not default to the “school solution;” 2) attract, train and empower acquisition professionals; 3) start with the basics – *the acquisition fundamentals work*; and 4) streamline decision making.

## WHY IS COMPETITION IMPORTANT?

Because it works. Competition, direct or indirect, is the most effective motivator for industry to reduce costs and improve performance. The Competition in Contracting Act (CICA) was enacted in 1984 to promote competition and thus reduce costs and improve performance. CICA established full and open competition as the standard for most procurement actions while at the same time allowing for a number of exceptions, some of which require that agencies request offers from as many potential sources as is practicable under the circumstances. For example, one noteworthy exception is giving priority to small business set asides (see Federal Acquisition Regulation (FAR) 19.201(a), 19.202-1, and 19.203(e)).

Competition is important for a number of reasons:

1. Competition creates an incentive for contractors to provide goods and services at a lower price (economic efficiency);
2. Competition spurs innovation of transformational technologies, which allows the Department to field the best weapon systems for our warfighters quickly<sup>1</sup>;
3. Competition yields improvements in the quality of products delivered and services rendered (firms that turn out low quality are driven out of the market and are unable to effectively compete)<sup>2</sup>;
4. Competition affords the Department the opportunity to acquire performance improvements (e.g., faster, lighter, more sustainable) by using “best value” source selection criteria<sup>3</sup>;
5. Competition provides opportunities for capable small businesses to enter new markets;
6. Competition enhances (or maintains) a strong defense industrial base which provides an operational surge capability to handle demand spikes, and;

7. Competition curbs fraud by creating opportunities to re-assess sources of goods and services reinforcing the public trust and confidence in the transparency of the Defense Acquisition System.

## IMPEDIMENTS THAT PRECLUDE THE DEPARTMENT FROM OBTAINING COMPETITION

In addition to the forces described above that limit opportunities for the Department to realize the full benefits of competition, the following self-imposed impediments can and must be overcome:

1. Resignation to the Status Quo. Project teams may seek to avoid competition because they have grown comfortable with the existing source or service provider. In some cases, competition is inappropriately bypassed by sending funds to other organizations (within and outside the Department) with the intent of avoiding competition by adding requirements to another organization's existing contract with the desired provider/supplier.
2. Acceptance of arbitrary time constraints. Project managers may perceive that competition takes too long, perceive that "sole source" is faster, and have unreasonable expectations for contracting process timelines that fail to support competition.
3. Lack of accountability. Many "sole source" justification and approval (J&A) documents cite specific actions that will be taken to ensure competition takes place the next time, on the follow-on procurement. Then, the "next time" comes five years later and it turns out those actions have not in fact occurred, yet there is no mechanism to identify and remedy the failure.
4. Data Deliverables and Rights. Too often in the past, the Department has failed to secure the necessary technical data deliverables and associated license rights, or at least secure a *competitively priced option* to procure those deliverables and rights, if needed to enable downstream competition. Organizations often lack the technical capacity or business expertise to identify what deliverables and rights should be acquired, how to price them appropriately, and how to forecast whether or when they will be needed in the future. Even worse, organizations too often fail to secure a return on investment by requiring *delivery* of data that has been developed entirely at DoD expense under the contract.
5. Scope Creep. Scope creep can occur when contractors are allowed (or required) to add work as a program progresses. Too often, the Department misses these windows of opportunity to break-out efforts for competition with the shortsighted view that it is easier to simply have the existing provider perform the work.
6. Lack of Experience. Organizations that lack the expertise or resources to write a Performance Work Statement (PWS), write evaluation criteria, or dedicate a team of

- professionals with relevant experience are not well-positioned to successfully conduct a competitive source selection.
7. Unduly Restrictive or Poorly Defined Requirements. Too often, requirements are written in such a way as to preclude other sources from having a realistic opportunity to compete, or signal to other sources than the incumbent that they need not bother. Examples include: specifying features that unnecessarily restrict the competitive field, insufficient amount of time for offerors to build competitive teaming arrangements and submit proposals, requiring X% of the contractor's staff to have security clearances within X days of contract start (or mandating the contractor have a large Sensitive Compartmented Information Facility (SCIF) at contract start), and unrealistic transition periods if a source other than the incumbent wins.
  8. Sub-optimal evaluation criteria. Examples are source selection evaluation criteria that are: overly complex; entail a greater number of factor/subfactors than are necessary; or otherwise not appropriately assigned relative weighting in factors so as to miss the most salient aspects that will enable the Department to distinguish amongst offerors in the source selection. However, this must be balanced with the competitive environment. When the number of offerors is very limited due to the unique nature of the requirement, evaluation criteria should not be so narrowly focused as to drive away competitors.
  9. Consolidating requirements. Consolidating (or bundling) requirements can have the effect of reducing competition when otherwise viable offerors could perform some of the work, but are precluded from proposing because they are unable to accomplish the complete package. This impediment is a particular concern for small businesses, as it limits opportunities for their participation. Another consequence of some past business practices is that many of our programs in the field were developed and produced when a single vendor was given the entire scope of early design, full system development, production and sustainment. As a result, risk-prudent competition was precluded by the enormity of scale for a non-incumbent to perform as an alternative provider/supplier.
  10. Reluctance to consider taking on integration risk. Opportunities for component break-out may be overlooked. However, component break-out decisions must be informed by a business case that supports the conclusion that potential savings outweigh the performance risk associated with the Department's assumption of government furnished equipment (GFE) suitability and/or assumption of overall integration responsibility.

## CREATING AND MAINTAINING A COMPETITIVE ENVIRONMENT

### General Techniques and Approaches

- Generally, the Department has been successful in creating competition at the outset of a program. But all too often, the winner of the competition becomes locked in as the sole-

source supplier or service provider indefinitely—sometimes referred to as “vendor lock.” Frequently, these early stages in the program are marked by a myriad of changes driven by advances in technology, updated threat assessments, budget instability, and unforeseen issues with development or production. When these events occur, the Department is at a significant disadvantage in negotiating and managing program cost growth in a noncompetitive vendor-locked scenario. Therefore, the desired approach is to maintain the competitive environment not only at the outset, but on a continuous basis throughout the life of the program.<sup>4</sup>

- Conduct thorough market research to understand the landscape for competition.
  - Use market research data to determine the availability of commercial capabilities, practices, items, and services to meet the general requirement. Then, determine whether the requirement can be satisfied by a commercial solution or whether the requirement can be modified to better take advantage of commercial practices (e.g., capabilities, terms and conditions).
  - Use Small Business Set-Aside authority whenever market research indicates it is feasible. The main purpose of set-aside authority is to promote and sustain a healthy competitive industrial base. A strong small business industrial base provides competitors not only at the prime level but also as subcontractors, which can lower costs.
  - If full and open competition is not feasible, explore opportunities for limited (other than full and open) competition.
  - Determine if the product has already been sold to another Government agency. Identify technical data deliverables and associated license rights that have already been acquired by the Government (or could be acquired in time to support competition, such as by exercising options for data delivery and/or rights).
  - Market research may indicate alternative sources of supply, for at least a portion of the acquisition. Accepting some risk associated with GFE through an associate contractor will have the effect of ensuring that product integration information will be vetted for future use. In addition, having a third-party involved in the development or production of the product will provide increased transparency which will reduce overall program risk.
  - For a more information about how to conduct market research for service acquisition requirements, see the “Market Research Report Guide for Improving Tradecraft in Service Acquisition” at: [http://www.acq.osd.mil/dpap/cpic/cp/market\\_research.html](http://www.acq.osd.mil/dpap/cpic/cp/market_research.html)
  - See DAU’s Continuous Learning Course (CLC) 004, Market Research at [http://icatalog.dau.mil/onlinecatalog/courses.aspx?crs\\_id=283](http://icatalog.dau.mil/onlinecatalog/courses.aspx?crs_id=283)
- Keep industry informed.
  - Issue requests for information (RFIs).
  - Use Sources Sought Synopses to understand the opportunities for small-business set-asides.

- Release draft requests for proposals (RFPs) and afford industry opportunity to provide feedback to improve the solicitation package. Contracting officers are not constrained to send out only one round of the draft RFP and drafts could be issued for portions of an RFP at any time to solicit industry comment.
- Host pre-solicitation conferences.
- Perform site visits.
- Conduct one-on-one meetings with prospective offerors to exchange general information before the solicitation is issued.
  - For more information about one-on-one meeting with prospective offerors before issuance of the solicitation, see OMB memorandum entitled, “Myth Busting: Addressing Misconceptions to Improve Communication with Industry During the Acquisition Process,” dated February 2, 2011, and “Myth Busting 2: Addressing Misconceptions and Further Improving Communication During the Acquisition Process,” dated May 7, 2012,—both memos available at: [http://www.whitehouse.gov/omb/procurement\\_index\\_memo/](http://www.whitehouse.gov/omb/procurement_index_memo/)
- During the source selection, hold discussions with offerors and consider discussing all weaknesses (not just the significant weaknesses and deficiencies) to afford offerors the opportunity to improve their competitive proposal.
- After the source selection is complete, conduct meaningful debriefings to inform unsuccessful offerors how they might be more competitive for the next requirement. See the “Debriefing Guide” within the DoD Source Selection Procedures available at: [http://www.acq.osd.mil/dpap/dars/pgi/pgi\\_hm/PGI215\\_3.htm](http://www.acq.osd.mil/dpap/dars/pgi/pgi_hm/PGI215_3.htm)
- Articulate requirements in performance-based terms. For service acquisition requirements, visit DAU’s Service Acquisition Mall at <http://sam.dau.mil/> for tools and to gain a better understanding about how to develop an effective PWS. Visit: [http://icatalog.dau.mil/onlinecatalog/courses.aspx?crs\\_id=1631](http://icatalog.dau.mil/onlinecatalog/courses.aspx?crs_id=1631) to register the acquisition team to participate early on in a facilitated Service Acquisition Workshop (SAW).
- RFPs should clearly articulate the basis for the award decision, making it crystal clear for industry participants to know what it takes to win. For example, one program featured close collaboration between user and acquisition community stakeholders to refine (e.g., by combining similar attributes) and simplify requirements into the minimum set required by the warfighter. They asked the following questions:
  - What do you really need?
  - What does that really mean?
  - What part of the required mission does that really support?
  - Is that something that is nice to have or absolutely necessary?
  - How much of that can you live without?

- If available, use facilitated source selection support with just-in-time training for Government participants in a competitive source selection. The Acquisition Center of Excellence (ACE) at the National Reconnaissance Office (NRO) is a model for the effectiveness of such an approach within the intelligence community. For more information, see <https://arc.westfields.net/about/>

## Open Systems Architecture

- Employ Open Systems Architecture (OSA) approaches whenever the business case analysis supports it. The development of an open system may even be less expensive due to reduction in material cost, the use of commercial standard interfaces, and the more effective maintenance and modification possible over the lifecycle. The development of the required information necessary to be an open system is a normal part of any robust engineering process and can be acquired without establishing a cost premium. OSA may be used to overcome barriers to competition by applying open standards and open business model principles. The essence of OSA is to take the long-standing engineering practice of modularization and adding to that the rigor of ensuring those modules can be separated from each other in a well-orchestrated manner. Sometimes referred to as loose-coupling and high-cohesion, these carefully defined boundaries are the structure of a layered framework of software and hardware shared services. These technical practices provide the power to acquire components of a system from separate sources and yield a vibrant business model that facilitates competition. OSA enables increased opportunities for competition of systems upgrades and competition at the subsystem level to improve innovation.
  - A mandate of OSA is that technical requirements be based to the maximum extent practicable on standards. Where there are no standards, the OSA methodology creates them. The goal is to make available, throughout the entire life cycle, technical standards and related specifications, requirements, source code, metadata, interface control documents (ICDs), and any other implementation and design artifacts that are necessary for a contract awardee (not only the original equipment manufacturer (OEM)) to successfully perform development or maintenance work. However, it must be recognized that new technology developments may make prior OSA structures obsolete; so flexibility in this regard must be allowed.
  - OSA can be used to preclude “vendor lock.” To foster competition at the module or component level, the Department should incentivize prime contractors to use OSA in the design phase so that functional modules from alternative sources (regardless of being sourced as subcontractor or Government-provided products) can be integrated into the system through standard interfaces (e.g., a “plug and play” model). Some examples include:
    - The Navy’s Acoustic Rapid Commercial-Off-The-Shelf (COTS) Insertion (A-RCI) program created rivalries by lowering switching costs using OSA. The



A-RCI program is a success story in the use of modular open systems approach (MOSA)/open architecture (OA) for sonar system upgrades to be installed on the entire submarine fleet. A-RCI is a program for transforming existing submarine sonar systems from legacy systems to a more capable and flexible COTS/OSA to provide the submarine force with a common sonar system. The program's concept is simple: upgrade the system without changing the sensors. A-RCI's open architecture concept makes it easier to integrate additional sensors, providing a dual-track improvement option for submarines. By sharply upgrading ship sensor processing, it integrates and improves the boat's towed array, hull array and sphere array sonars, and runs more advanced algorithms to provide a fuller "picture" of the surrounding environment.

- Consolidated Afloat Networks and Enterprise Services (CANES): This program is designed to streamline and update shipboard networks to improve interoperability across the fleet. CANES enables greater efficiency by introducing OSA to eliminate many legacy, standalone networks, to provide an adaptable-responsive information technology platform which strengthens network infrastructure by meeting changing warfighter needs and reducing hardware footprint, operation and sustainment workloads, and total ownership costs. The CANES program replaces five shipboard legacy network programs with a commercial hardware based, common computing environment for command, control, intelligence and logistics. The consolidation is expected to lower operations/maintenance costs, and reduce training needs by providing the Infrastructure and Platform as a Service (IaaS/PaaS) through a rolling 4-year hardware baseline and 2-year software baseline.
- The Future Airborne Capability Environment (FACE(TM)) offers a consensus built, open technical standard, business practices and conformance process which were developed within the Open Group's FACE Consortium. The FACE Consortium includes participation from all branches of the military, academia, and more than 60 industry partners. The FACE Technical Standard defines a common and open software architecture, interfaces and the corresponding data model which enables a DoD software product line approach. Applications designed to the technical standard enforce hardware and operating system independent, capability-based applications that can be used by multiple platforms which promote software reuse, improved integration and interoperability; and reduce redundant development efforts, vendor lock and time to field. The Government has procured an open software developer's toolkit, integrator's toolkit and conformance test suite to ease development and integration efforts of FACE Conformant software to reduce barriers to entry and promote competition.
- For more information about OSA, see the "DoD OSA Contract Guidebook for Program Managers" at <https://acc.dau.mil/OSAGuidebook>.

## Intellectual Property Strategy

- Intellectual Property Strategy to Enable Future Competition. Program management must establish and maintain an Intellectual Property (IP) Strategy to identify and manage the full spectrum of IP and related issues (e.g., technical data and computer software deliverables, patented technologies, and appropriate license rights) as a critical mechanism to remove barriers to competition.
  - Plan for Sustainment over the Entire System Lifecycle. The IP Strategy must be updated throughout the entire program life cycle, complementing and supporting the Acquisition Strategy and the Life Cycle Support Strategy. An effective IP Strategy is necessary to maximize competitive alternatives for all phases of the life cycle, including re-procurement of additional systems or spares; operation and training; maintenance and repair; modifications to interface with other systems; and capability upgrades or technology insertion.
  - Address Both the Data *Deliverables* and the Data *Rights* in the solicitation and the resultant contract. The IP Strategy must account for these two distinct, although related, considerations when managing the program's technical data (TD) or computer software (CS) needed for future competitive sustainment activities.
    - “Data Deliverables” refers to the TD or CS that will be required to be delivered to the Department pursuant to a contract requirement. Programs must establish data delivery requirements on a case-by-case basis under each contract. These data delivery requirements should address the nature, type, and level of technical detail needed for the specific TD or CS deliverables to support future needs, whether for sustainment activities, component or subsystem breakout, or system reprocurement. In determining what data will be needed for sustainment, the program must carefully consider whether those activities are most likely to be conducted in-house or through competitively outsourced activities, as that will inform the closely related decision regarding the nature and scope of data rights needed.
    - “Data Rights” refers to the specialized form of IP license rights that govern the Department's ability to use or release some specific TD or CS. As a general rule, the prescribed Defense Federal Acquisition Regulation Supplement (DFARS) data rights clauses will establish the standard or “default” data rights the Department will receive. However, it is critical to recognize that the Department cannot take full advantage of such clause-based data rights unless or until it actually takes delivery of the associated TD or CS. Similarly, the standard rights that the Department receives for commercial or proprietary non-developmental technologies are subject to significant restrictions and limitations, and typically cannot be used or released outside the Department for competitive activities.

- Priced Contract Options to Address Uncertainty. One key obstacle in this area is the difficulty in forecasting the specific data deliverables, and/or associated data rights that may be needed for future program needs.
  - In the face of this uncertainty, a program may be tempted to defer any specific requirements for TD or CS deliverables, or for any additional data rights, until later during the program life cycle. However, doing so will almost always result in the Department being forced to address these issues in a noncompetitive environment that exists after contract award and later during the program life cycle.
  - The better solution is to include priced contract options for specific types of TD or CS deliverables, or for additional data rights, up-front in the competitive phases of each contract award, and earlier in the program life cycle. With such a priced option, if the program ultimately determines that it does need the additional data deliverable or data rights, then the Department may exercise the option at a competitive price; but if the data or rights are not needed, then the Department may elect not to exercise the option. This approach allows the Department greater flexibility, and more affordable pricing, in seeking to manage its IP needs, and in addressing contingencies such as the original vendor going out of business or simply electing not to continue producing or supporting an item. However, care must be taken to ensure that a priced contract option for TD/CS deliverables and associated rights is obtained only when it makes sense. An option for TD/CS should not risk overwhelming other critical source selection factors in a competition. Also, there should be a realistic business case to be made that such an option might be exercised.
- Segregating DoD-Funded Development from Privately-Funded (Proprietary/Commercial) Technology. Most systems entail a mix of DoD-funded technologies, and privately funded commercial or non-developmental (i.e., proprietary) technologies. Too frequently, programs fail to recognize and exploit this distinction, and end up in a “vendor locked” scenario in which even a relatively small amount of proprietary technology may result in a significant barrier to maintaining competition for sustainment – even for those portions of the technology that were originally developed with DoD funding.
- DoD-funded Development. For DoD-funded technology development, the Department should ensure its return on this investment by requiring delivery of the TD and/or CS related to or resulting from that development. When DoD has funded the development of the technology, the decision regarding whether to have the resulting TD or CS delivered has arguably already been made. The Department has already paid for the technology itself to be developed, and in today’s digital world that almost certainly included creating the fully detailed TD or CS. In this scenario, the only thing not already pre-paid by the Department is the cost of formatting and

delivering a copy of this newly created TD or CS, which costs should be trivial compared to the development costs, and any unnecessary costs for this final step may be avoided by seeking delivery of the data in its “native” format (i.e., the format in which it was created by the contractor).

- Consider including contract line items to require the delivery of TD and CS related to any/all technology developed with DoD funding under the contract; if not separate line items, then via the contract data requirements list (CDRL).
  - More good news: in this scenario, the associated data rights will “take care of themselves” (i.e., the default data rights for development in whole or in part with DoD funds will allow future competitive use of the TD/CS).
  - For work that derives from, extends, or completes efforts(s) performed under prior Small Business Innovative Research (SBIR)/Small Business Technology Transfer (STTR) funding agreements, the small business retains data rights for a period of 5 years according to DFARS clause 252.227-7018. However, agencies receive a royalty-free license in technical data generated under SBIR awards for Government use but may not disclose SBIR technical data outside the Government.
- Privately-Funded Commercial or Proprietary Technology. In contrast, when a technology has been developed exclusively at private expense, then the Department will be required to pay for all data deliverables, and all associated data rights that it acquires related to that technology. For example, for detailed TD or CS pertaining to such proprietary technologies, the DFARS default license rights would not allow that data to be released outside DoD in a competitive environment. In this scenario, the Department should first consider how those products can be competitively procured from an open marketplace such that securing greater rights is not in the best interest of the Department. This includes carefully weighing the costs and benefits of acquiring such detailed TD or CS, and in seeking additional data rights to allow for future competitive uses of that data. The Department should not make an unnecessary “grab” for proprietary rights.
  - Alternatives to Fully Detailed TD or CS Packages. Note that in some cases, the Department may be able to preserve competition for sustainment activities related to proprietary systems, subsystems, or components, by requiring delivery of only the “form, fit, and function” (FFF) data for the item containing proprietary technology or software. Such FFF data provides enough detail to enable a competitor to provide its own functionally equivalent (and maybe proprietary) solution as a replacement, modification, or upgrade to the original proprietary item, but does not reveal the proprietary details of the original equipment.
    - Reminder: Open Systems Architectures (OSA). The ability to leverage such alternatives to detailed TD or CS packages is significantly enhanced for systems using OSA design approaches, e.g., to enable a “plug-and-play” functionality.

- **Reminder: Priced Contract Options.** Using priced contract options for TD or CS delivery requirements, and/or for additional rights to allow competitive uses of the otherwise proprietary data, will provide the Department with greater flexibility and more competitive pricing, in seeking to manage its IP needs in the face of uncertainty regarding future activities involving proprietary technologies.
- **Evaluating IP Deliverables and Rights in Source Selections.** Include appropriate factors or subfactors to evaluate offers of TD and CS deliverables, and the associated data rights, in source selections. The specific approach to integrating such IP considerations into the evaluation will depend on whether the best value source selection uses a tradeoff approach, an LPTA approach, or a combination thereof. In structuring these factors. The source selection team should address any IP related considerations during negotiations, such as:
  - Clarification of the offered TD/CS deliverables or data rights;
  - Government challenges to unjustified asserted restrictions on Government rights; and/or
  - Negotiation for specialized license agreements.

A caution on coercing greater rights to IP than necessary: Care must be taken to avoid requiring an offeror, as a condition of being responsive to a solicitation or as a condition for contract award, to grant the Department additional data rights beyond the standard or default rights that are specified in the DFARS clauses. Asking a contractor to offer greater rights for TD or CS of a component where there are competitive alternatives or that are robust commercial products may have significant negative consequences on the cost and quality. For example, a subcontractor may decline to sell its product to the Government's prime contractor if it is required to provide more generous rights than it offers to commercial customers. This would require the offeror to source an inferior component or build a new alternative at greater cost and risk to the Department.

- **Monitor Data Deliverables for Restrictive Markings.** As part of inspection and acceptance procedures, ensure that TD and CS deliverables are reviewed to ensure that any restrictive markings are in accordance with data rights assertions provided in the proposal and documented in the contract. Doing so will avoid any unnecessary obstacles or delays in using such TD or CS in future competitive activities.

## **Competition in Developmental Programs**

Competitive prototyping is a technique that can help the Department reduce technical risk, refine requirements, validate designs and cost estimates, and evaluate manufacturing processes prior to making major commitments of resources. Competitive prototyping can also help to reduce the time it takes to field a system, thus reducing acquisition cost.<sup>5</sup> Under the Weapon System Acquisition Reform Act (WSARA), competitive prototyping is mandatory for Major Defense Acquisition Programs (MDAPs), unless waived by the Milestone Decision Authority (MDA). The Acquisition Strategy must provide for

competitive system prototypes before Milestone B approval. If not feasible at the systems level, it must be provided at the critical subsystems level.

- Consider the use of the SBIR program to introduce competition where there has been none in the past and to accomplish programmatic risk reduction.
  - The SBIR program, by design, promotes competition among small business innovators both at the Phase I and Phase II levels. This competitive vetting process enables a “down select” in Phase III contracting for the developed technology.
  - Promote application of SBIR developed technologies in subcontracting to realize cost savings and improve performance.
  - For example, the Navy successfully used SBIR projects to demonstrate feasibility of hosting tactical combat systems applications in a COTS/OSA environment on the Virginia Class Submarine program resulting in cost savings and performance improvements
- Consider use of Broad Agency Announcements (BAA) as vehicles that encourage competition by articulating a need without specifying how that need might be achieved. BAAs foster innovation and are used to acquire basic and applied research and parts of development that are not related to the development of a specific system.
  - The Navy successfully used BAAs on the Virginia Class Submarine program as part of the annual Advanced Processing Build software updates.
- Consider the use of authority granted by 10 U.S.C. 2371, Research Projects: Transactions Other Than Contracts and Grants, or P.L. 103-160, Section 845 (as amended), which provide for the use of instruments that encourage participation of nontraditional defense contractors.

### **Competition for Weapon System Production**

- Single “Winner Take All.”
  - Under this model, the Department can expect bidders will buy in, or at least submit proposals with unrealistic assumptions since there is so much to gain with a win and so much to lose with a loss (the loser may be locked out of that market for decades).<sup>6</sup>
- Dual Sourcing. Dual sourcing is a competitive procurement technique wherein contract awards for a product are split between two or more sources, with the larger share usually going to the lower priced supplier.<sup>7</sup> The decision to employ a multiple-source strategy should be supported by a business case analysis that accounts for the cost and schedule impacts of redundant development, testing, and operational support of competing solutions.
  - The “Great Engine War” of the 1980’s pitted competition for F-15 and F-16 fighter aircraft engines between two separate producers. The initial F-15 engines were developed and produced on a sole-source basis and the Air Force had planned to use the same engines for the F-16. The Air Force turned what had formerly been a “winner take all” approach and ran a competition to enable the other U.S. manufacturer of fighter engines to participate in a dual-production, competitive split-

buy annual award. Thus, the Air Force was able to continuously evaluate the price and performance of each engine. This on-going, intense competition between two contractors resulted in:

- Improved reliability for both suppliers as measured by reduced shop rate visits and significant increases in the cycle of scheduled depot returns;
- Improved performance by both suppliers; along with reduced costs from each;
- Improved contractor responsiveness;
- Enhanced warranty coverage and reduced warranty costs;
- Expanded industrial base; and
- Estimated net savings of \$2-3 billion (in then-year dollars) over the twenty year life cycle.

The Air Force realized the above benefits in competition in part because the environment was ripe, given the fact that both companies employed proven designs that relied on existing technology, sufficient quantities were anticipated, and the necessary infrastructure was already in place to enable the second source to produce.<sup>8</sup>

- The Navy has a long-term interest in maintaining two viable surface combatant shipyards to provide for future competitive procurement and to allow for a future higher rate of production. The Navy's strategy for Arleigh Burke (DDG 51) class guided-missile destroyers sought to satisfy both of these interests.
  - One of the key techniques used to execute this strategy has been the Profit Related to Offerors (PRO) concept. PRO is a competitive allocation procurement strategy tailored to a dual-source production program. The concept is to defeat offeror pricing strategies that do not provide the best value to the Government. Under PRO, contractors compete for a target profit (fixed-price incentive—FPI type contract) based on their offer. The lowest cost bidder is awarded a contract at its proposed target cost and receives a higher target profit percentage. The “losing” bidder is awarded a contract at its proposed target cost, but the “loser’s” target profit is set to a lower percentage than the winner’s. The losing profit percentage is a function of the difference between the losing bid and the winning bid; the bigger the difference between the bids, the lower the loser’s target profit. The formula for deriving the loser’s target profit is specified in the RFP.
- According to various studies, dual-sourcing for 14 tactical missile programs between 1975 and 1995 saved 20 percent over the life cycle. For example, the Tomahawk missile program made annual split awards, saving over \$270 million and improving performance reliability from 80 percent to 97 percent.<sup>9</sup>
- Competitive Multi-Sourcing with Distributed Awards.
  - As an alternative to traditional dual sourcing, this alternative enables the Department to maintain multiple viable sources without having to “fully” fund or “share” work among competitors.

- The second contractor does not receive an initial significant share, but receives sufficient funds to mature an alternative design and bring competitive pressure into the environment. This approach provides a viable alternative contractor in the event the prime contractor underperforms.<sup>10</sup>
- Commercial-Derivative Products/Systems.
  - With the KC-46 aerial tanker aircraft, the Air Force had a requirements set that consisted of a finite list of mandatory, objective requirements that were verifiable. Ultimately, it was decided that rather than evaluating everything (and introducing an inordinate degree of complexity); the source selection had to be tailored to evaluate what was most important. In the first step of the evaluation, the Government team verified that offerors met all 372 of the mandatory defined minimally-acceptable values (no trade-offs were permitted and no credit given for fulfilling any of the 93 non-mandatory SRD requirements). In the second step, the evaluation team adjusted the offerors' proposed prices to give some benefit to a proposal that offered a better or more effective aircraft and consider:
    - Fleet effectiveness (e.g., how many aircraft would be necessary to accomplish the tanker mission);
    - Fleet efficiency (measured by calculating how much fuel each aircraft would burn over a 40 year life span); and
    - Projected MILCON costs (e.g., hangars, ramps and runways).

Finally, the evaluation criteria stated that in the event of a virtual tie among offerors (i.e. if the adjusted price were within 1 percent of each other), then the Air Force would use the 93 non-mandatory requirements as the tie-breaker to select the awardee. Each of the 93 non-mandatory requirements were scored on a pass/fail basis with a pre-specified number of earnable points assigned to each. In the case of a virtual tie, the offeror with the highest number of points would win and would be bound contractually to fulfill the non-mandatory offerings, regardless of whether they were included as tie-breakers. By evaluating the non-mandatory requirements on a pass/fail basis for KC-46, the Air Force remedied faults the GAO found with previous attempts of the KC-45 source selection, where the GAO ruled that with the massive non-mandatory tradespace of what had been 700+ requirements, the source selection failed to characterize that tradespace, convey how it would be evaluated, and document its evaluation.

- Using Rights Previously Secured.
  - To support the Arleigh Burke (DDG 51) class guided-missile destroyer program continuation, the Navy competitively procured the main reduction gear (MRG) shipsets as Government Furnished Equipment. The source that had produced MRGs over the history of the program had exited the market and sold the associated intellectual property. The Navy concluded that the price offered by the acquiring



company was unreasonable and therefore decided to compete the MRG shipsets by releasing to offerors the performance specification, the interface control document, the technical manual and the propulsion gear assembly specification. The Navy was able to do this because it had retained, in the archived files, the build-to-print technical data package. The competition was a resounding success saving the Navy tens of millions of dollars.

- Leader-Follower.
  - This technique may be used when there is a developer or sole producer of a product or system that can be designated as a leader company. The leader provides the assistance and know-how to one or more follower companies so that the followers can become a source of supply. The objectives of this technique are to:
    - Reduce delivery time;
    - Achieve geographic dispersion of suppliers;
    - Maximize the use of scarce tooling or special equipment;
    - Achieve economies in production;
    - Achieve uniformity and reliability in equipment, compatibility, or standardization of components and interchangeability of parts;
    - Eliminate problems in the use of proprietary data that cannot be solved by more satisfactory solutions; and
    - Facilitate the transition from development to production and to subsequent competitive acquisition of end items or major components.<sup>11</sup>
  - In order for this technique to be effective, there must be an incentive for the “leader” to be motivated to participate in this capacity.
- Reverse Engineering. Reverse engineering is the process of duplicating an item, functionally and dimensionally, by physically examining and measuring existing parts to develop the technical data (physical and material characteristics) required for competitive procurement. The reverse engineering process may be performed on specific items which are currently purchased in sole-source procurements. This may be due to limited data rights, an inadequate TDP, a diminished or non-existent source of supply, or as part of a Product Improvement Program (PIP). Normally, reverse engineering will not be cost effective unless the items under consideration are of a high dollar value or are procured in large quantities. Such items may be reverse engineered if an economical savings over their acquisition life cycle is demonstrated, and if other methods of acquiring the necessary technical data for competitive re-procurement are either more costly or not available.<sup>12</sup>
  - Although this could be considered the least desirable technique, reverse engineering might be necessitated in the case of a source that is no longer in business, or if mechanical drawings are otherwise unavailable. Teams are strongly advised to seek legal counsel before embarking on this strategy.

- Component break-out. It is the Department's policy is to break out components of weapons systems or other major end items under certain circumstances prescribed by the DFARS.<sup>13</sup>
  - Rather than having the prime contractor procure from its subcontractors all components and/or subsystems, the Department might consider competitively acquiring the components or subsystems directly from a vendor source. By subsequently conveying the components to the prime contractor as GFE, the Department can avoid pass-through costs the prime contractor will add.
  - In most cases, the Department will find it is worth the cost/price premium to have the prime contractor retain accountability for integration. To assess whether it would be a smart decision to employ component break-out, conduct a business case analysis (BCA) to consider the following:
    - Extent to which the Department can fairly allocate schedule and other risk to preclude the prime contractor from using the GFE conveyance as an inappropriate excuse to secure an equitable adjustment (should the prime contractor encounter other, unrelated problems);
    - Whether quantities are sufficient to create cost efficiencies;
    - The timing within the lifecycle of the acquisition--if still in early production lots, perhaps the opportunity is more ripe for component break-out than it would be in the last planned production lots;
    - A contractor's make or buy plan and the Department's opportunities to influence those decisions to promote competition at the sub-prime level;
    - Qualification of alternative sources (schedule and any technical risk to qualify new sources);
    - Availability of mechanical drawings and other technical data;
    - Budget implications--unfortunately, the Department often misses opportunities to employ component break-out when the budget assumes component costs will be borne by the prime contractor and the Department is leery of introducing schedule risk by involving another party; and
    - Complexity of the system and whether the Department has the organic skill set to perform integration.
  - Marine Corps Systems Command successfully employed component break-out to directly acquire missile "containers" from a capable small business contractor, saving millions of dollars over what would have been incurred by the prime missile contractor to produce. The key to successfully using this strategy in this case was the fact the Agency had the engineering drawings and its leadership had the will to compete this effort.

### **Competition in Acquisitions for Services**

- Engage all stakeholders (requiring and acquisition teams) in advance of formulating the acquisition strategy.
  - The Air Force uses a process called "Early Strategy and Issues Session (ESIS)" to begin the dialogue early enough to vector the team before its Acquisition Strategy

- Panel, and to get all stakeholders on the same page. The ESIS helps teams to understand the extent to which existing contract vehicles might fulfill their needs. Specifically, the Air Force has realized more competition in the IT services arena by re-distributing the workload from a single category of support to five more specialized categories of support. At the same time, there are other opportunities where re-distribution results in a consolidation to bring about a larger, enterprise-wide solution (as has been the case for range support).
- The Army has established a Strategic Sourcing Team in the ASA(ALT), DASA(P), Senior Services Manager Office. These efforts assist in progressing the Army's approach to enhanced management of services to achieve increased acquisition efficiency and cost savings. The DASA(P) Senior Services Manager is coordinating the improvement of all Army services acquisitions.
  - Dedicate a trained/certified program manager to lead the effort to define the requirement.
    - Assess what is needed;
    - Eliminate duplication, ambiguity and redundancy;
    - Use layman's terms to articulate the requirement in the PWS;
    - Identify the desired output in performance-based terms if possible; if not practical for a particular requirement, then establish level-of-effort terms for that particular requirement solely;
    - Align the requirement with desired outcomes (trace in the PWS); and
    - Assess affordability and develop the Department's cost estimate.
  - Structure Indefinite Delivery/Indefinite Quantity (IDIQ) Contracts to Remove Obstacles to Competitive Bidding
    - The ordering period (contract period of performance) should generally be limited to a reasonable number of years (e.g., 5 years) to enable refreshed access to the competitive marketplace (or otherwise provide "on-ramps" provisions in the solicitation to reserve the right to bring on additional IDIQ awardees to compete for orders).
  - Structuring ordering evaluation criteria so as not to be unduly restrictive to any one potential awardee
    - The Air Force Design and Engineering Support Program (DESP) found that 39 percent of the task order competitions under IDIQ contracts resulted in only one bid. The team assessed reasons why and made two changes:
      - First, the team amended the source selection methodology so that technical, cost, and past performance factors were more equally weighted. No one factor can be less than 25 percent or more than 50 percent. This methodology served to lessen the advantage of the incumbent contractor, since the technical factor could not overshadow past performance and cost.



item to motivate cost control, while not limiting the ability to meet performance objectives.

- Met extensively with industry prior to and during development of the RFP, in order to get feedback and establish effective competition framework.
- The Army Materiel Command, Enhanced Army Global Logistics Enterprise (EAGLE) program executes logistics services and requirements using an innovative strategy to satisfy those requirements. The strategy uses basic ordering agreements (BOAs) competing orders from among 128 contractors (BOA holders) qualified to compete for EAGLE task orders, 78 of which are small businesses.

### **Competition for Commodities**

- Reverse Auctioning. Reverse auctioning entails one buyer and many sellers where the business strategy is for the buyer to procure needed commodities at the lowest possible price. Reverse auctioning is distinguishable from traditional auctioning in that reverse auctions are: initiated by the buyer; won by the low bidder; typically enabled by software applications; set up with advance price increments; time-limited as prescribed in the solicitation; and typically conducted on-line (vice in person).<sup>14</sup>
  - The Defense Logistics Agency (DLA), along with other DoD organizations, has successfully used reverse auctions. Through the reverse auction process, the procuring activity publicizes the requirement where multiple sellers are able to offer bids on the contract. The sellers are able to view the current low offer as the auction progresses, and then make a business decision whether to submit a lower offer. As a pricing tool, this is an excellent method of strategic sourcing and ensures that the Government is receiving a fair and reasonable price. Reverse auctions are appropriate when the requirements are well-defined--most beneficial for commodities or non-complex services.
  - For example, the DLA Energy acquired Ground Fuels supporting Central Command Afghanistan, Central Asia, and Operation Enduring Freedom using reverse auctions on four solicitations and achieved over \$225 million in savings by:
    - Requiring Commercial Grade Items such as Aviation fuel, diesel, and gasoline--the product requirements were well-defined;
    - Competing--each reverse auction had up to 8 bidders;
    - Training all participants (reverse auction administration staff and bidders);
    - Starting bids at a low price--the lowest price offered for each Contract Line Item Number was the starting point in the reverse auction;
    - Allowing all participating bidders to see and monitor the price changes at any point during reverse auction;

- Allowing sellers to view current low offers as the auction progressed and then make a business decision whether to submit a lower offer; and
  - Conducting reverse auctions on-line, allowing participation of bidders from different locations at the same time with minimum costs.
- Leveraging Existing Contract Vehicles
  - The Army Engineering and Support Center, Huntsville Furniture Program awards in excess of 95% of the support contracts competitively, primarily using GSA Multiple Award Schedules. In FY 2013, the Army Centralized Furniture Program furnished 209 administrative buildings and 262 barracks buildings, which included 26,601 barracks spaces, for a program cost of \$132M, with a total cost avoidance of \$26M, or 19% of the estimated value of the program.
  - The Army Contracting Command (ACC) and Aviation and Missile Command (AMCOM) Expedited Professional and Engineering Support Services (EXPRESS) Program is a group of multiple award Blanket Purchase Agreements (BPAs) leveraging commercial processes and innovative enhancements established within the "evergreen" aspects of the General Services Administration (GSA) schedules. The program incorporates dynamic teaming arrangements to offer the right mix of professional and highly technical advisory and assistance services. The EXPRESS program provides operational efficiencies and improved mission readiness with overall value and flexibility to acquisitions for its customers and end-user organizations.

### **Indirect Competition**

- Direct competition is ideal, but lacking that, indirect competition can be achieved so long as the current supplier or service provider believes that the Department has choices.
- Indirect effects of competition (the threat) can be realized by taking steps to decrease the “switching costs” of going from one source or service provider to another. The “threat” is credible so long as the substitute provides an attractive price-performance trade-off. The Department can minimize “switching costs” by employing OSA or by competing dissimilar products to achieve the same desired mission outcome.<sup>15</sup>
- Following are examples of indirect competition that demonstrate (1) early deployment of the next generation system; (2) use of off-the-shelf systems from U.S. and non U.S. sources; and (3) upgrades to existing equipment to provide incremental delivery of new capabilities.
  - The Adaptive Engine Technology Demonstration (AETD) effort is intended to mature engine core performance technologies that enable fuel-efficient, high-thrust power plants. The AETP would take the existing work with industry partners and run a competition to take the successful contractor(s) through Technology Development based on the design successes of subsystems. At the end of this phase, another competition would be run to take one contractor

through EMD with the contractors making decisions about exiting the industry based on the results of the competition.

- The Air Dominance Initiative (ADI) is/was a collaborative effort with the Air Force and Navy studying the capabilities and technologies that could create a "generational shift" in U.S. air superiority. ADI was designed to study technology areas like networking, communications, and control of the electromagnetic spectrum, sensors, manned/unmanned flight, and the role of space-based assets for the purpose of exploring concepts of next generation air dominance that could lead to a prototyping program based on the results of the concept definition effort.
- The F-35 Helmet Mounted Display System applied indirect competition through the introduction of a second source with a directed supplier to enable risk reduction. The approach was designed to generate performance and cost benefits through a second source that could replace the original vendor which was experiencing technical challenges. The competition strategy provided potential cost savings and technical advances that would not have been realized if the second source were not introduced.

## SUMMARY

These guidelines are intended to provoke thought about the various approaches that may be employed to competitively fulfill the Department's requirements. The techniques and examples cited herein should be considered in developing acquisition strategies to tailor an approach that creates and maintains a competitive environment throughout the life cycle of a given product or service. By fostering an environment in which continuous competition is valued, the Department will be poised to realize the benefits derived by leveraging competition to incentivize industry to deliver quality, cost-effective products and services to satisfy the mission.

## ACKNOWLEDGEMENTS

The authors acknowledge the substantive contributions of the following professionals who willingly gave of their time to participate in interviews and share their experiences: Dr. Jacques S. Gansler, Lt Gen Christopher C. Bogdan, Lt Gen Ellen M. Pawlikowski, Maj Gen Wendy M. Masiello, Ms. Debra W. Scheider, Mr. William P. McNally, Mr. Richard McNamara, Ms. Carolyn Goldberg, Mr. Stanley Thomas, Mr. Elliott Branch, Mr. Kevin Fahey, Mr. Harry P. Hallock, Ms. Nancy M. Heimbaugh, Mr. Nickolas H. Guertin, and Mr. Richard M. Gray.

## BIBLIOGRAPHY

---

<sup>1</sup> “Competition in Defense Acquisitions,” Jacques S. Gansler, William Lucyshyn, and Michael Arendt, University of Maryland Center for Public Policy and Private Enterprise, 2009.

<sup>2</sup> Id.

<sup>3</sup> Id.

<sup>4</sup> Id.

<sup>5</sup> Government Accountability Office (GAO 13-826R), Department of Defense’s Waiver of Competitive Prototyping Requirement for the VXX Presidential Helicopter Replacement Program, September 6, 2013.

<sup>6</sup> Gansler 2011.

<sup>7</sup> Report by the General Accounting Office to the Honorable David Pryor, United States Senate, “Cost Effectiveness of Dual Sourcing for Production Price Competition is Uncertain,” GAO NSIAD 84-111, August 31, 1984.

<sup>8</sup> Gansler 2009, pg. 25-28.

<sup>9</sup> “Continuous Competition as an Approach to Maximize Performance,” Ginny Wydler, Su Chang, and Erin M. Shultz, Defense Acquisition Research Journal, April 2013, Volume 20, No. 1.

<sup>10</sup> Id.

<sup>11</sup> Federal Acquisition Regulation (FAR) Subpart 17.4, Leader Company Contracting

<sup>12</sup> Department of Defense Handbook, U.S. Army Reverse Engineering Handbook (Guidelines and Procedures), MIL-HDBK-115A (Army), 1 June 2006.

<sup>13</sup> DFARS 207.171.3

<sup>14</sup> DAU Course on Fundamentals of Reverse Auctioning

<sup>15</sup> Getting the Right Business Strategy, Understanding the Government Industry Relationship in Acquisition,” Elliot Branch, October 25, 2012.