

Department of Defense
Small Business Innovation Research Program
Commercialization Pilot Program (CPP)

Report for Fiscal Year 2006



OUSD(AT&L)/OSBP

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Executive Summary

The Department of Defense (DoD) Commercialization Pilot Program (CPP) is a new initiative authorized by section 252 of the National Defense Authorization Act for Fiscal Year 2006, Public Law No. 109-163 (NDAA), which contained several provisions regarding the Small Business Innovation Research (SBIR) program. Section 252 amends section 9 of the Small Business Act (15 U.S.C. 638) to add a new subsection, 9(y), that authorizes the Secretary of Defense and the Secretary of each Military Department to create and administer a Commercialization Pilot Program (CPP). To fund the administrative cost of the pilot programs, section 9(y) authorizes use of up to an amount equal to 1% of the SBIR set-aside budget. These funds may not be used to make Phase III awards. The pilot program is authorized through FY09.

The Under Secretary of Defense (Acquisition, Technology & Logistics) requested that the Military Departments stand up activities that enhance the connectivity among SBIR-firms, prime contractors, and DoD science & technology and acquisition communities to facilitate the type of collaboration needed to enable effective technology transition. The USD(AT&L) further requested that plans address improving the capability of SBIR firms to provide the identified technology to the Department, directly or as a subcontractor.

Initial implementation of the CPP in FY06 focused on establishing robust programs among the Military Departments, which constitute over 75% of the DoD SBIR program by budget, and likewise control a large majority of Department Research, Development, Test and Evaluation and Procurement funding. CPP funds were set aside but not fully utilized in FY06. CPP activities were defined and progress made toward implementation, but no results were yet achieved.

The CPP implementation approaches among the Military Departments vary in how SBIR projects with rapid transition potential are identified and selected, and what type of assistance will be provided to accelerate technology commercialization. The Air Force is putting “transition agents” in place among its product centers to implement an SBIR technology “Hunter-Gatherer” process to identify, seed and facilitate the transition of technologies addressing product center technology needs. The Army is establishing a process whereby candidate technologies are identified via business and technology assessment, and selected projects receive comprehensive transition planning and commercialization assistance. The Navy is simultaneously standing up a centralized SBIR Accelerated Transition (SAT) Program, whereby candidate projects are submitted by industry and its systems commands to be considered for additional funding, and allowing its major systems commands to stand up their own CPP activities.

The Department is undertaking a wide range of additional activities to address the requirements and intent of the CPP and improve the broader SBIR program. These initiatives include exploring incentives for transition of SBIR-funded technologies, review of acquisition management and oversight processes for opportunities to better leverage the SBIR program, improving SBIR data collection and data integrity for program evaluation, and education and outreach to Department personnel and program stakeholders to improve awareness of the SBIR program as a source of innovation for the warfighter. Though it is too soon to assess results, the Department expects the CPP initiatives will enhance the rate of SBIR technology transition.

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1.0. Summary of Commercialization Pilot Program (CPP) Authorization

The Department of Defense (DoD) Commercial Pilot Program (CPP) is a new initiative authorized by section 252 of the National Defense Authorization Act for Fiscal Year 2006, Public Law No. 109-163 (NDAA), which contained several provisions regarding the Small Business Innovation Research (SBIR) program. Section 252 amends section 9 of the Small Business Act (15 U.S.C. 638) to add a new subsection, 9(y), that authorizes the Secretary of Defense and the Secretary of each Military Department to create and administer a Commercialization Pilot Program (CPP). To fund the administrative cost of the pilot programs, section 9(y) authorizes use of up to an amount equal to 1% of the SBIR set-aside budget. These funds may not be used to make Phase III awards. The pilot program is authorized through FY 2009.

The purpose of the Commercialization Pilot Program is to accelerate the transition of technologies, products, and services developed under SBIR to Phase III and into the acquisition process. In carrying out the CPP, the Secretary of Defense and the Secretary of each Military Department are required to identify SBIR research programs that have the potential to transition rapidly to Phase III and into the acquisition process. The Secretary of the Military Department concerned must certify in writing that, with respect to the selected programs, that the successful transition of the program to Phase III and into the acquisition process is expected to meet high priority military requirements of the military department.

The Secretary of Defense is required to submit an evaluative report regarding activities under the Commercialization Pilot Program to the Committee on Armed Services and the Committee on Small Business Entrepreneurship of the Senate and the Committee on Armed Services and the Committee on Small Business of the House of Representatives at the end of each fiscal year. The report is to include:

- An accounting of the funds used in the Commercialization Pilot Program;
- A detailed description of the Commercialization Pilot Program, including incentives and activities undertaken by acquisition program managers, program executive officers and prime contractors; and,
- A detailed compilation of results achieved by the Commercialization Pilot Program, including the number of small business concerns assisted and the number of projects commercialized.

2.0. Background: SBIR in the Department of Defense

2.1. SBIR Program Overview

Congress enacted the Small Business Innovation Development Act of 1982 (P.L. 97-219), establishing the Small Business Innovation Research (SBIR) program. Stemming from studies indicating small hi-tech businesses are cost-effective performers of research and development and are particularly capable of turning R&D into new and helpful products and processes, the statute strengthened the role of small businesses in federally-funded research and development. In passing the 1982 Act, Congress wrote that it found that technological innovation creates jobs, increases productivity, competition and economic growth, and while small businesses are the nation's principal source of significant innovation, the vast majority of federally funded R&D had been conducted by large businesses, universities, and government laboratories.

The SBIR Program is a government-wide program overseen by the Small Business Administration (SBA). Under the Act, each federal agency with an extramural budget for research or research and development in excess of \$100 million for FY82 or thereafter, must establish an SBIR Program. Currently, the Department of Defense and ten other federal agencies within the US government are required to have an SBIR program. Within the Department of Defense ten DoD Components participate in SBIR program: the Army, Navy, Air Force, and through the broader DoD Program, Defense Advanced Research Projects Agency (DARPA), Missile Defense Agency (MDA), Defense Threat Reduction Agency (DTRA), U. S. Special Operations Command (SOCOM), Joint Science and Technology Office of Chemical and Biological Defense (CBD), Office of the Secretary of Defense (through the Director, Defense Research & Engineering) and National Geospatial Intelligence Agency (NGA)¹. NGA is a voluntary participant. Program oversight is provided by the Office of the Under Secretary of Defense for Acquisition, Technology & Logistics (OUSD(AT&L)), Office of Small Business Programs (OUSD(AT&L)/OSBP).

Within the Department, SBIR contributes to defense transformation by directly supporting goals to develop focused technology and cultivate a capacity for materiel innovation in the defense industrial base sufficient to meet current and future warfighter needs. As such, SBIR is a tool to enable strategic and tactical acquisition excellence as a source of innovative solutions to enhance capabilities and reduce technical risk, particularly in the early stages of the system acquisition lifecycle.

¹ Beginning in Fiscal Year 2007, the Defense Logistics Agency (DLA) and the Defense Microelectronics Activity (DMEA) will participate in the SBIR program.

2.2. SBIR Program Improvements

The CPP authority addresses the perennial challenge of identifying, developing, testing, evaluating and ultimately transitioning SBIR-funded technology into systems providing the warfighter with capabilities needed to fulfill war and peacetime missions. Consistent with this intent, the DoD has a history of taking steps to improve the efficiency and effectiveness of the SBIR program, with particular emphasis on transitioning SBIR-funded technologies and products into military and private sector markets. A summary of DoD SBIR policy and initiatives undertaken from the mid-1990s to present to strengthen the program and address technology transition and commercialization follows:

- Reduced the interval between proposal receipt and contract award, establishing an operating standard of less than four months from solicitation close to Phase I contract award, and less than 6 months between the end of Phase I and award of Phase II contracts.
- Established the Fast Track program to allow firms with qualifying external (non-SBIR) funding support to apply during Phase I for Phase I-to-Phase II gap funding and expedited Phase II proposal evaluation.
- Established a uniform DoD-wide topic review process to ensure that all topics submitted are suitable for solicitation and funding under the SBIR program.
- Initiated practice of “pre-releasing” solicitation topics on the Internet allowing small businesses to engage directly DoD technical points of contact to obtain technical clarifications before the solicitation is released, to assist firms in determining whether or not to invest resources to prepare and submit a proposal, and to enhance the responsiveness of proposals.
- Directed systematic collection of commercialization metrics on all prior Phase II awards to develop a robust data set to both evaluate program effectiveness and measure awardee commercialization track record.
- Established a Commercialization Achievement Index (CAI) for participating firms, using commercialization data collected to assess relative commercialization performance of firms and influence evaluation criteria scoring in SBIR source selection decisions.
- Required internal DoD acquisition community endorsement or sponsorship of at least 50% of Military Department solicitation topics to ensure that a significant portion of the investment portfolio was directly tied to the identified needs of acquisition programs.
- Created internal DoD acquisition community liaisons for the SBIR program to improve program connectivity to product centers and acquisition program offices.

- Established the Phase II Enhancement program through which selected Phase II contracts are extended with additional funding to match external (non-SBIR) funding to further develop, test or demonstrate the technology.
- Implemented a paperless, electronic proposal submission system to radically improve the administrative efficiency of the program.
- Created the SBIR/STTR Interactive Topic Information System (SITIS) to provide prospective applicants with the opportunity to anonymously submit technical questions and receive answers posted on the solicitation web site.
- Sponsored the “Beyond Phase II: Ready for Transition” Conference² bringing together stakeholders in the technology transition process—including recent SBIR Phase II contract awardees, large business concerns, and government acquisition community and science and technology representatives—to increase awareness of market opportunities created by SBIR investments and facilitate the development of relationships necessary to enable technology transition.

These initiatives were undertaken with the recognition that SBIR can be a powerful tool for DoD technologists and acquisition officials to seed and leverage innovation to produce technology for the warfighter and enhance the vitality of the defense industrial base by funding smaller, entrepreneurial firms. These initiatives have positioned the Department well to implement CPP authority with some knowledge of what has worked and what has not. The CPP authority provides the Department with the opportunity to test new models to identify rapidly and transition SBIR technologies while also refining established techniques.

A number of policies and initiatives in particular have enabled and will continue to facilitate acceleration of SBIR technologies to Phase III within the defense market. As mentioned above, current SBIR policy requires that at least 50% of SBIR topics developed by the Military Departments have internal DoD acquisition community endorsement or sponsorship. Since this endorsement or sponsorship should be derived from an identified technology need, which in turn addresses a military requirement, awards resulting from these topics provide a good source for the Departments to identify research programs for accelerated transition. Further, the program mechanisms in place to secure this acquisition community support can be leveraged and strengthened. The annual “Beyond SBIR Phase II: Bringing Technological Edge to the Warfighter” conference will help identify SBIR technologies with the most transition potential. As discussed above, this centerpiece event will next be held in August 2007 at the Hyatt Regency Crystal City, Arlington, Virginia. It will bring together recent SBIR Phase II award winners, major prime contractors, and DoD system developers and acquirers to establish new relationships and share best-practices to move SBIR technologies to the next level. An additional targeted group will be small and mid-sized manufacturers to promote partnerships with SBIR award winners.

² This conference event, formerly called “Beyond Phase II: Ready for Transition,” will be renamed “Beyond SBIR Phase II: Bringing Technological Edge to the Warfighter” in 2007.

2.3. Historical Program Impact

Accurately measuring program impact or output is a continuing challenge. The purest measure of program value to the Department is technology adoption—that is, the operational manifestation of SBIR investments on warfighting capabilities. This is most directly assessed by taking stock of how products utilizing SBIR-funded technologies provide new or enhanced system performance, or generate better value or cost saving in the provision of needed capabilities. However, systematically and quantitatively measuring these events (particularly cost savings, which is increasingly important) is very difficult.

A survey of program activity shows that the program has produced scores of technologies contributing substantially to both warfighter capability and the economy more broadly. The program seeded and developed technological innovation critical to today’s warfighting operations. To name just a few, these technologies protect troops in combat zones with body and vehicle armor, allow warfighters to communicate with local populations in foreign lands, improve the accuracy of anti-radiation missiles, more efficiently equip special operations forces to perform their unique mission, and improve armament of tactical aircraft.

The program has likewise spawned the development and proliferation of technologies for both defense and non-defense applications such as Radio Frequency Identification or RFID, advanced photolithography, platform motion stabilization, and active noise reduction, to name a few. Such “dual-use” successes are particularly important because they both create future DoD suppliers with broad and thus more robust bases of business and signal that the Department is leveraging the forces of commercial technology innovation. Many of these successes have fueled significant growth among firms receiving SBIR awards, sometimes resulting in buyouts by a larger firm, or the firms going public. However, quantifying investment impact in a manner useful for program oversight and assessment remains a central challenge.

A reasonable proxy for this type of impact is SBIR Phase III activity. SBIR Phase III is activity in the form of business or capital transactions that is derived from, extends or logically concludes effort begun under Phase I or Phase II contracts and is not funded with SBIR set-aside funding. Such transactions capture a significant degree of the impact space and serve as a suitable, if not ideal, parameter to measure program output. There are several limitations to using this metric which need to be understood. For example, in some cases, Phase I or Phase II efforts themselves add significant value, sometimes obviating the need for Phase III.

Additionally, *frequency* of Phase III activity needs to be considered prominently, because the magnitude of technology commercialization events alone does not necessarily reflect its value to the Department. For example, US Special Operations Command tends to buy products in relatively low volume, which correspond to small dollar value events compared to larger procurements the Military Departments might undertake. But the transactions are no less important if they bring the constituent warfighter a needed capability. Indeed, a convincing argument could be made that frequency of success, the realization of a Phase III event corresponding to a statement of need (topic), could be the single most important metric of program success. Historically, over 65% of SBIR topics generated some form of commercialization while

26% produced commercialization in excess of nominal investment.³ An additional challenge is capturing cost savings realized by the Department, a supplier or other entity, derived from the SBIR Phase I or II effort. In an era of increasing budget demands, cost saving is an increasingly important consideration. Beginning in FY07, the Department will begin collecting cost savings data generated by SBIR investments.

Commercialization can be measured via existing data sources such as the SBIR Commercialization Database, record of prime contract actions database (DD350)⁴, and, to a lesser extent, subcontract data. Since 2000, the DoD has been monitoring and tracking commercial results of SBIR and STTR funded projects using these sources. The SBIR Commercialization (Phase III) Database is used in source selection as a measure of firms' commercialization success. Trend analysis has provided insight into the impact of the program. The data reveals there is significant spin-off achieved by a balanced investment program impacting the U.S. economy across many sectors as non-defense sales and investment slightly exceeds defense-related commercialization.

As discussed above, spin-off activity is important in part because it indicates participating firms are developing broad business bases and are thus not fully dependent on the Department for their vitality. Additionally, the data shows that average additional investment is greater than average sales derived from SBIR-derived products and services for the first 8 years after Phase II award, and achieving full commercialization potential has a long horizon (12 to 17 years). The Commercialization Pilot Program provides an opportunity to shorten this timeline. The SBIR Commercialization Database provides a benchmark for the program today and, augmented by new metrics as necessary to fully characterize CPP impact, it will serve as a primary source of data for evaluation.

3.0. Initial Implementation of CPP Authority

This section, under separate subsections for the Army, Navy, and Air Force, accounts for CPP funds set aside and used, characterizes CPP activities, describes results to date and anticipated results, as directed by the legislation. Section 9(y) of the Small Business Act allows the broad implementation of CPP authority throughout the DoD SBIR program, in addition to the programs within Military Departments. Initial Department implementation focuses on establishing robust programs among the Military Departments, which constitute over 75% of the DoD SBIR program by budget, and likewise control a large majority of Department Research Development, Test and Evaluation (RDT&E) and Procurement funding. The Department anticipates wider implementation of CPP authority across the broader DoD SBIR program in FY07. Note that CPP

³ Commercialization figures are drawn from the firm-reported DoD SBIR Commercialization Database and encompass phase I awards made 1990-2003. Topic commercialization rates are calculated as the mean of yearly averages over this period of time. Considering only DoD-derived sales or investment (via prime or subcontract), 42% of topics generated some commercialization while 13% generated commercialization in excess of the nominal investment amount. Nominal investment is set at \$850,000, the combined value of Phase I and Phase II contracts based on statutory guidelines.

⁴ The Federal Procurement Data System – Next Generation (FPDS-NG) has replaced the DD350, effective October 1, 2006.

funding is RDT&E and is thus two-year money—FY06 funding not otherwise programmed or obligated is available through September 30, 2007.

Overall, funds were set aside by the Army, Navy and Air Force, but not fully used (obligated) during FY06. FY06 was dedicated to designing and putting in place these CPP activities. Since the CPP functions were not fully implemented by the end of FY06, no results (in terms of SBIR technology transitions affected) were yet achieved. Described below are activities accomplished and planned for FY07.

Since P.L. 109-163 was signed in January 2006, the Office of the Secretary of Defense and the Military Departments have taken a number of actions to create and implement the Commercialization Pilot Program. DoD Component CPP activities are described in detail in the following sections while Department-level CPP activities are summarized below:

- The USD(AT&L) issued a memorandum on June 27, 2006 to the Secretary of each Military Department providing guidance on the Commercialization Pilot Program and requesting they conduct a portfolio review of recent SBIR Phase II projects to identify technologies with the greatest potential to meet known needs of programs of record. It stressed linking the science and technology (S&T) and acquisition communities effectively and seeking high-potential cross-cutting technologies that serve joint technology needs.
- USD(AT&L) featured the SBIR Program and the CPP in the September 2006 eLetter to the acquisition community to emphasize the importance of the broader program and the new initiative and the opportunity they present to the entire acquisition, technology and logistics community.
- The Office of Small Business Programs (OSBP) established a position of Small Business Technology Transition/SBIR CPP Coordinator on staff, recognizing the importance and challenge of the technology commercialization opportunity. The role of CPP coordinator is to develop DoD-wide assistance/enhancement activities, proliferate best practices, and develop program measurement and assessment tools while also overseeing all DoD Component initiatives. The Department envisions that the position will be filled on a rotating basis by highly qualified personnel drawn from among participating the DoD Components to provide Department management and oversight with a joint perspective.

3.1. Department of the Army

The objective of the Army CPP program is to increase Army SBIR technology transition and commercialization success and accelerate the fielding of capabilities to Soldiers by:

- assessing and identifying SBIR projects and companies with high transition potential that meet high priority requirements;

- providing market research and business plan development;
- matching SBIR companies to customers and facilitating collaboration;
- preparing detailed technology transition plans and agreements;
- providing additional funding for select SBIR projects; and,
- applying metrics and measuring results.

In addition, the Army will continue current efforts supporting SBIR commercialization into acquisition programs and conduct expanded outreach, training, and collaboration opportunities for Program Executive Officers (PEOs) and acquisition program managers (PMs). For example, acquisition PMs and PEOs have been actively involved in SBIR/STTR topic selection and management for the past two years, with each PEO and direct reporting PM authorized to develop and manage topics directly.

a. Army CPP Funding:

The Army CPP budget set aside for CPP is \$2.4M in FY06 (1% of the total authorized Army SBIR budget of \$243M). These funds will be obligated in FY07: approximately \$2.3M will be allocated for contracted services for Support Services for Technology Transition Management, and the remaining \$0.1M for other administrative activities related to CPP, including solicitation, award, and administration of the above contract.

b. Army CPP Description:

The U.S. Army has recently solicited for a vendor to provide expert advice, analysis, and coordination regarding technology transition and commercialization of specific SBIR projects in support of CPP. Following award, the vendor, in collaboration with acquisition and research organizations, will perform an initial assessment of current Phase II SBIR projects to identify a focused set of projects that meet high priority military requirements and have the potential for rapid transitioning to Phase III and into the acquisition process. This assessment of companies and projects will determine those projects most likely to succeed based on a survey of potential commercial and Department of Defense applications, assessment of Technology Readiness Levels, risk, determination of target customers and requirements, and an assessment of the small business capabilities.

Based on the identified SBIR projects' potential for transition as described below, the U.S. Army will utilize a CPP "investment fund" of SBIR dollars to enhance ongoing Phase II activities with expanded research, development, test and evaluation to accelerate transition. The CPP investment fund is expected to be \$15M for the first year. Additionally, U.S. Army will encourage the CPP vendor with an incentive award based on performance indicated by the total sales and outside investments obtained by participating CPP companies to facilitate the acquisition of third-party (non-SBIR) funding for each participating SBIR company. Third party funding may include (1) additional investments in activities that further the development and/or commercialization of

the technology; (2) private sector and/or non-SBIR government funding to develop the prototype into a viable product or service for sale; (3) cash revenue from the Government or private sales of the specific technology and/or spin-off technology; and (4) venture capital investment.

The CPP will involve managers of U.S. Army programs and their prime contractors. The CPP vendor will match each identified SBIR company and their project to potential customers and serve as an advocate and liaison between the SBIR company and the identified customer. The CPP vendor, small business, and identified customer will develop a technology transition plan for each project.

As part of the CPP, the U.S. Army will develop and report quantitative metrics to measure technology transition and commercialization success over time against set goals. Additionally, the impact of the transitioned SBIR technologies on U.S. Army programs and warfighter capabilities will be monitored for material improvement in terms of cost, schedule, and performance.

c. Army CPP Actions/Results:

The U.S. Army plans to execute the CPP effort in the first half of FY 07, the earliest anticipated time a CPP vendor can be selected and under contract. In the interim, the U.S. Army has conducted a portfolio review of SBIR Phase II projects and has identified 11 recent SBIR Phase II projects that have shown exceptional progress in transitioning in DoD programs, through Program Executive Offices, prime contractors, or additional Science and Technology activities. The projects were selected based on their clear alignment with specific U.S. Army/defense programs and significant non-SBIR (Phase III) funding or investments.

3.2. Department of the Navy

The goal of the Navy CPP initiative is to accelerate and provide incentives for the transition of SBIR projects into Navy systems by providing needed assistance to SBIR firms and to stakeholders in the Navy technology transition process, including PEOs and PMs, Prime contractors and laboratories. The program will address delays in SBIR execution and specific risk issues in CPP projects, and integrate Navy Fleet warfare sponsors with Requirements, Acquisition and Science & Technology communities. The Navy employs the following practices to facilitate transition:

- Navy SYSCOM SBIR topic and award selection and SBIR execution are guided by those that manage the later stage RDT&E funding and have responsibility for technology transition.
- Navy SYSCOMs and PEOs have evolved individual SBIR practices that enhance linkage between acquisition programs, SBIR firms, the Navy labs, and prime contractors. Phase III transition planning is the collaboration mechanism, beginning in SBIR Phase I and concluding with transition memos between key stakeholders in the transition process.

- Navy SBIR provides business-oriented transition assistance to SBIR contractors through its Transition Assistance Program (TAP), which offers all Phase II award winners the opportunity to obtain 10 months of tailored consulting to develop transition-oriented plans and products. TAP culminates in an annual *Navy Opportunity Forum*, a defense industry event showcasing participating SBIR Phase II firms for acquisition community representatives as well as prime contractors and technology investors.

a. Navy CPP Funding:

In FY 2006, the Navy SBIR Program Office set aside total of \$3.06 million in CPP funding (1% of the Navy SBIR funds of \$306M). Approximately 80% of these funds will be provided to NAVAIR (\$1.470M), SPAWAR (\$234K) and NAVSEA (\$652K) to establish CPP functions within the major systems commands. Other command CPP functions are planned to follow in FY07. The remaining \$706,000 is retained by the Office of Naval Research (ONR) to fund Navy-wide CPP initiatives. Of the \$3.06 million FY06 funding set aside, \$1.7 million was placed on contract during FY06 with two firms, Whitley, Bradley & Brown, Inc. and Dawnbreaker, Inc. via modifications to existing contracts. The remaining FY06 funds will be obligated in FY07.

b. Navy CPP Description:

The Navy established a Tiger Team in July 2006 to review the current Navy SBIR process, from topic development to Phase III award, with a special focus on identifying bottlenecks and gap reduction opportunities. The team will identify best practices and provide recommendations to improve and accelerate the process of moving SBIR technology from idea to insertion. The review includes studying all aspects of the Navy SBIR program, as well as the Air Force and Army SBIR programs, initiatives such as the Defense Acquisition Challenge Program (DACP), Technology Transition Initiative (TTI), Rapid Technology Transition (RTT) Program, Quick Reaction Special Projects (QRSP), and other high priority program identification, development and documentation processes such as the Navy Integrated Strategic Capability Plans. Other Navy activities planned for CPP include:

- Broadly address the technology “Valley of Death” between early and later stage development;
- Employ decision gates to focus SBIR resources on projects with high transition potential;
- Solicit candidate CPP projects and vet with SYSCOMs;
- Select and fund initial group of CPP projects;
- Provide facilitators to assist identified firms and improve communication and coordination among transition stakeholders;

- Design education/training program for “transition stream” players and to broaden the technology customer and user base, including Fleet and more Prime/2nd-tier contractors;
- Design a Navy-wide SBIR CPP tracking and reporting capability, with emphasis on comprehensive results-focused metrics, and data capture as a process element;
- Tap RTT, ManTech, DACP and other technology transition funding sources to help bridge technology “Valley of Death;”
- Identify incentives for technology insertion/transition in major acquisition and RDT&E contracts and develop of standard clauses that can be incorporated into future large Navy contracts that will provide incentives to prime contractors for subcontracting with SBIR firms; and,
- Improve SBIR engagement with OPNAV, PEOs/PMs, and Primes and 2nd-tier contractors.

c. Navy CPP Actions/Results:

Navy process for selecting the FY06 CPP projects is focused on projects solicited from the pool of past SBIR award recipients and SYSCOMs, supported by command PEOs. Review criteria categories include high priority operational need, resource and acquisition support, degree and type of risk, business case analysis, and realistic prospect of transition. In FY06, the Navy conducted preliminary screening and narrowed the candidate list to approximately 70 SBIR Phase II award winners with research projects that have potential to rapidly transition to Phase III and into acquisition programs.

3.3. Department of the Air Force

The Air Force objective for the CPP is to direct, track, monitor and accelerate the transition of technologies, products and services developed under the SBIR Program. The CPP plan starts by:

- Establishing a link between Air Force Research Laboratory, the Acquisition Program Offices and the Prime Contractors in developing roadmaps for the Phase I topics that will result in high impact products with a high probability of transitioning to defense system programs of record;
- Ensuring selected Phase II topics meet the needs of the programs of record;
- Tracking and documenting successful transitions; and,
- Ensuring SBIR projects are included in program roadmaps.

a. Air Force CPP Funding:

Air Force FY06 SBIR funding set aside for the CPP is \$2.96M, slightly less than the \$3.06 million authorized. The funding was not obligated in FY06. The funding is to be contracted to MacAulay-Brown, Inc (“MacB”) of Dayton, Ohio to provide on-site support staff at each of the Product Centers to facilitate execution of the new CPP process, as described below.

b. Air Force CPP Description:

To meet its CPP objectives, the Air Force will hire “transition agents” for each of the four Product Centers in a coordinated and focused effort to form a strong tie between the Air Force Research Laboratory SBIR program and the acquisition program managers. This is critical for System Program Office (SPO)/prime contractor insight and involvement in strategy for topic generation. These transition agents will:

- Facilitate the execution of the new process and provide a bridge between the laboratory and product centers;
- Assist the government (both lab and product center) in the topic solicitations, in developing strategic guidance of the topics, in tracking and recording successful transition into acquisition programs, and in identifying high payoff Phase II programs; and,
- Track, facilitate, and improve SBIR technology transitions to better meet the needs of the product centers and the Air Force.

The U.S. Air Force will be adding transition agents incrementally as the new process is developed and institutionalized at each product center. Initially, three transition agents per center will be at Space and Missile Systems Center (SMC) and Aeronautical Systems Center (ASC) to institute the pilot processes at those locations. By early in calendar year 2007, six additional transition agents will be placed at Electronic Systems Center (ESC) and Air Armament Center (AAC).

Further, the process for developing SBIR topics at each of the four Product Centers will be re-engineered to leverage their strengths. Key aspects of the new process are:

- A strategy session among the senior leadership (in the case of the SMC, the SPO Chief Engineers and the AFRL Chief Scientists) to help guide topic generation. The SPO/Primes need to be engaged with the AFRL from the start. They are the ultimate receptors of the technology in most cases and it is imperative that they provide insight into areas where innovation is needed.
- The product center and the laboratory will work collaboratively to generate topics versus the previous serial process. This synergy allows for increased cohesion of hundreds of topics that can together make a significant impact where alone might take years to fill gaps.

- The cycle time for the SBIR process from topic generation to Phase I contract award will be cut down substantially from the current 500+ days to less than 325 days.

c. Air Force CPP Actions/Results:

be responsive to acquisition and other Air Force customer needs during transition agents' placement and ramp-up, a Phase 2 Extension program has been introduced to accelerate a few critical Phase II projects of high importance to the Program Offices and the PEOs. SBIR firms selected for Phase 2 Extensions receive additional SBIR funding and their contracts include gated options in which the Program Office must participate in a "go/no go" decision at each gate. Phase 2 Extension candidates are required to get SPO Program Manager and Product Center Commander endorsements indicating that successful transition of this project into the acquisition process is expected to meet high priority military requirements. The difference between a Phase II Extension and a Phase II Enhancement is that the Phase II Extension does not require non-SBIR matching funds from an external source, such as an acquisition program office.

4.0. Evaluation and Supporting Initiatives

As discussed above, evaluation measures will address project commercialization rate measured as percentage of projects receiving Phase III funding. Time to transition will be measured to assess the degree of acceleration achieved by CPP activities. Further, additional data will be collected to characterize the impact of CPP efforts on technology development and transition.

A wide variety of initiatives are under way as follows to both address CPP authority and improve the broader SBIR program:

- The Department is exploring a range of incentives to stimulate the transition of SBIR-funded technology for promulgation throughout the Department via appropriate mechanisms. Initiatives under consideration include: extension of SBIR Phase III permissive sole-source authority to SBIR subcontracts, reinforcement of SBIR Phase III sourcing authority and data rights, formal consideration of SBIR technology transition planning during acquisition review processes, favorable treatment of proposals which employ SBIR technologies or partnerships, use of incentive or award fees for SBIR-technology sourcing; wider employment of SBIR Phase III contracts toward meeting small business sourcing goals, to include possible multiple small business credits; and encouraging individual performance bonuses for personnel affecting SBIR technology transition. The new National Security Personnel System (NSPS) in the process of being rolled-out across the Department is well suited to implement this type of performance-based compensation. It will be up to each participating component and their subcomponents to take advantage of this opportunity to set output-based goals to measure this dimension of performance for relevant program officials while ensuring the integrity of source selection activities.

- The Defense Acquisition University (DAU) is supporting a curriculum review to ensure SBIR/STTR content as appropriate to both educate and train personnel in the acquisition, program management, system development and contracting career fields on appropriate and effective use of the SBIR program as a tool and source of innovation.
- The Department is conducting outreach to prime contractors by continuing and expanding the “Beyond SBIR Phase II: Bringing Technological Edge to the Warfighter” Conference to both educate prime and middle market defense contractors on the opportunity presented by the SBIR program, and facilitate the development of productive supply relationships among them and recent SBIR Phase II contractors.
- The Department is considering modification as necessary to encourage wider use of the SBIR Phase II Enhancement program, which offers SBIR matching funds to qualifying external funds, particularly funding from an acquisition activity or prime contractor for system development, demonstration, test or evaluation. All current CPP plans described above use the Phase II Enhancement program in some form to focus SBIR investments on rapid transition candidates. Such Phase II Enhancements can be used to fund test and evaluation and act as a risk-reducing incentive for both program managers and prime contractors.⁵
- Discussions have been initiated with large prime contractors to better track and report involvement with SBIR-funded firms, particularly supply chain development via SBIR Phase III activity at the subcontract level. Specifically, participants in the Comprehensive Small Business Subcontracting Plan Test Program have been approached for support in collecting and reporting such information. Because such data collection is out of the scope of the test program charter, support is strictly voluntary at this point.
- The Department is investigating the enhancement of prime contract data collection via FPDS-NG to include the potential to identify prime contracts likely to have SBIR subcontracting opportunities. Further, the Department is seeking to update FPDS-NG to allow SBIR Phase III data to be entered for contracts with firms not meeting size standards for SBIR Phase I and Phase II contracts, consistent with the SBA SBIR Policy Directive (September 24, 2002).
- The Mentor-Protégé Program (MPP) is increasingly being used to foster the development of supply chain relationships between qualifying SBIR-award recipients and major DoD suppliers to bring high-potential technology solutions to market. Without authority to use a portion of the SBIR set-aside budget to fund these agreements, MPP utilization is limited by the MPP budget and other competing program obligations and objectives.

⁵ In addition to authorizing the CPP, section 252 of the NDAA for FY06 modifies section 9(e) of the Small Business Act identifying funding test and evaluation activities as a valid use of SBIR set-aside funds.

- The Department is identifying synergies among SBIR and other initiatives addressing technology transition to develop specific and productive program interrelationships.

5.0 Conclusion

The Department has established programs to initially implement SBIR CPP authority in the Army, Navy and Air Force and anticipates implementing the authority more broadly in FY07. Plans in place represent different approaches to the technology commercialization challenge. Though it is too soon at this point to assess results, the Department expects the CPP initiatives will enhance the rate of SBIR technology transition. The Department will continue to examine ways to strengthen the SBIR program and looks forward to working with Congress toward this end.