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DEFENSE ACQUISITIONS

Business Case and Business Arrangements Key for Future Combat System's Success

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Highlights

Highlights of GAO-06-478T, testimony before the Subcommittee on Airland, Committee on Armed Services, U.S. Senate

Why GAO Did This Study

The Future Combat System (FCS) is a networked family of weapons and other systems in the forefront of efforts by the Army to become a lighter, more agile, and more capable combat force. When considering complementary programs, projected investment costs for FCS are estimated to be on the order of $200 billion.

FCS's cost is of concern given that developing and producing new weapon systems is among the largest investments the government makes, and FCS adds significantly to that total. Over the last five years, the Department of Defense (DOD) doubled its planned investments in such systems from $700 billion in 2001 to $1.4 trillion in 2006. At the same time, research and development costs on new weapons continue to grow on the order of 30 to 40 percent.

FCS will be competing for significant funds at a time when Federal fiscal imbalances are exerting great pressures on discretionary spending. In the absence of more money being available, FCS and other programs must be executable within projected resources.

Today, I would like to discuss (1) the business case needed for FCS to be successful and (2) related business arrangements that support that case.

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To view the full product, including the scope and methodology, click on the link above. For more information, contact Paul L. Francis at (202) 512-4841 or francisp@gao.gov.

What GAO Found

There are a number of compelling aspects of the FCS program, and it is hard to argue with the program's goals. However, the elements of a sound business case for such an acquisition program—firm requirements, mature technologies, a knowledge-based acquisition strategy, a realistic cost estimate and sufficient funding—are not yet present. FCS began product development prematurely in 2003. Since then, the Army has made several changes to improve its approach for acquiring FCS. Yet, today, the program remains a long way from having the level of knowledge it should have had before starting product development. FCS has all the markers for risks that would be difficult to accept for any single system, much less a complex, multi-system effort. These challenges are even more daunting in the case of FCS not only because there are so many of them but because FCS represents a new concept of operations that is predicated on technological breakthroughs. Thus, technical problems, which accompany immaturity, not only pose traditional risks to cost, schedule, and performance; they pose risks to the new fighting concepts envisioned by the Army.

Many decisions can be anticipated that will involve trade-offs the Government will make in the program. Facts of life, like technologies not working out, reductions in available funds, and changes in performance parameters, must be anticipated. It is important, therefore, that the business arrangements for carrying out the FCS program—primarily in the nature of the development contract and in the lead system integrator (LSI) approach—preserve the government's ability to adjust course as dictated by these facts of life. At this point, the $8 billion to be spent on the program through fiscal year 2006 is a small portion of the $200 billion total. DOD needs to guard against letting the buildup in investment limit its decision making flexibility as essential knowledge regarding FCS becomes available. As the details of the Army's new FCS contract are worked out and its relationship with the LSI evolves, it will be important to ensure that the basis for making additional funding commitments is transparent. Accordingly, markers for gauging knowledge must be clear, incentives must be aligned with demonstrating such knowledge, and provisions must be made for the Army to change course if the program progresses differently than planned.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss the Department of the Army's Future Combat System (FCS), a networked family of weapons and other systems. FCS is in the forefront of efforts to help the Army transform itself into a lighter, more agile, and more capable combat force by using a new concept of operations, new technologies, and a new information network that links whole brigades together. This is a tremendous undertaking that will involve a total investment cost on the order of $200 billion.

The context within which the FCS investment is being made is important. Fiscal imbalances faced by the federal government will continue to constrain discretionary spending. One of the single largest investments the government makes is the development and production of new weapon systems. Over the last five years, the Department of Defense (DOD) has doubled its planned investments in new weapon systems from about $700 billion in 2001 to nearly $1.4 trillion in 2006. At the same time, research and development cost growth on new weapons maintains its historical level of about 30 to 40 percent. This is the lens that must be used to look at major new investments, such as FCS, because more money may not be an option for the future. Rather, the key to getting better outcomes is to make individual programs more executable.

Today, I would like to discuss (1) the business case that is necessary for the FCS to be successful and (2) the related business arrangements for carrying out the FCS program.

Summary

The critical role played by U.S. ground combat forces is underscored today in Operation Iraqi Freedom. That the Army should ensure its forces are well equipped with the capabilities they will need in the coming years is unquestioned. Moreover, the top-level goals the Army has set for its future force seem inarguable: to be as lethal and survivable as the current force, but significantly more sustainable and mobile. However, the Army's approach to meeting these needs—embodied in the FCS and its complementary systems—does raise questions.

On the one hand, the FCS is the result of the Army leadership's taking a hard look at how it wants its forces to fight in the future. Army leadership has had the courage to break with tradition on FCS; it would have likely been much easier to win support for successor vehicles to the Abrams and Bradley. On the other hand, FCS does not present a good business case for an acquisition program. It is necessary that a major new investment like

FCS have a compelling, well-thought out concept, but this alone is not sufficient. FCS began the product development prematurely in 2003, and today is a long way from having the level of knowledge it should have had before committing the high level of resources associated with a new product development effort. The elements of a sound business case—firm requirements, mature technologies, a knowledge-based acquisition strategy, a realistic cost estimate and sufficient funding—are not yet present. FCS has all the markers for risks that would be difficult to accept for any single system. They are even more daunting in the case of FCS not only because of their multiplicity but because FCS represents a new concept of operations that is predicated on technological breakthroughs. Thus, technical problems, which accompany immaturity, not only pose traditional risks to cost, schedule, and performance; they pose risks to the new fighting concepts envisioned by the Army.

We are still early in the long journey that FCS entails. Many decisions lie ahead that will involve trade-offs the government will make. Facts of life, like technologies not working out, reductions in available funds, and changes in performance parameters, must be anticipated. It is important, therefore, that the business arrangements made for FCS, primarily the development contract and the lead system integrator approach, preserve the government's ability to adjust course as dictated by facts and circumstances. At this point, the $8 billion to be spent on the program through the end of fiscal year 2006 is a small portion of the $200 billion total. DOD needs to guard against letting the buildup in investment from limiting its decision making flexibility as essential knowledge regarding FCS becomes available. As the details of the Army's new FCS contract are worked out and its relationship with the lead system integrator evolves, it will be important to ensure that the basis for making additional funding commitments is transparent. Accordingly, markers for gauging knowledge must be clear, incentives must be aligned with demonstrating such knowledge, and provisions must be made for the Army to change course if the program progresses differently than planned.

Background

The FCS concept is part of a pervasive change to what the Army refers to as the Future Force. The Army is reorganizing its current forces into modular brigade combat teams, meaning troops can be deployed on different rotational cycles as a single team or as a cluster of teams. The Future Force is designed to transform the Army into a more rapidly deployable and responsive force and to enable the Army to move away from the large division-centric structure of the past. Each brigade combat team is expected to be highly survivable and the most lethal brigade-sized

unit the Army has ever fielded. The Army expects FCS-equipped brigade combat teams to provide significant warfighting capabilities to DOD's overall joint military operations. The Army is implementing its transformation plans at a time when current U.S. ground forces are playing a critical role in the ongoing conflicts in Iraq and Afghanistan.

The FCS family of weapons includes 18 manned and unmanned ground vehicles, air vehicles, sensors, and munitions that will be linked by an information network. These vehicles, weapons, and equipment will comprise the majority of the equipment needed for a brigade combat team. The Army plans to buy 15 brigades worth of FCS equipment by 2025.

Elements of a Business Case

We have frequently reported on the importance of using a solid, executable business case before committing resources to a new product development. In its simplest form, this is evidence that (1) the warfighter's needs are valid and can best be met with the chosen concept, and (2) the chosen concept can be developed and produced within existing resources—that is, proven technologies, design knowledge, adequate funding, and adequate time to deliver the product when needed.

At the heart of a business case is a knowledge-based approach to product development that demonstrates high levels of knowledge before significant commitments are made. In essence, knowledge supplants risk over time. This building of knowledge can be described as three levels or knowledge points that should be attained over the course of a program:

- First, at program start, the customer's needs should match the developer's available resources—mature technologies, time, and funding. An indication of this match is the demonstrated maturity of the technologies needed to meet customer needs.
- Second, about midway through development, the product's design should be stable and demonstrate that it is capable of meeting performance requirements. The critical design review is that point of time because it generally signifies when the program is ready to start building production-representative prototypes.
- Third, by the time of the production decision, the product must be shown to be producible within cost, schedule, and quality targets and have demonstrated its reliability and the design must demonstrate that it performs as needed through realistic system level testing.

The three knowledge points are related, in that a delay in attaining one delays the points that follow. Thus, if the technologies needed to meet requirements are not mature, design and production maturity will be delayed.

Objectives, Scope, and Methodology

To develop the information on the Future Combat System program's progress toward meeting established goals, the contribution of critical technologies and complementary systems, and the estimates of cost and affordability, we interviewed officials of the Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics); the Army G-8; the Office of the Under Secretary of Defense (Comptroller); the Secretary of Defense's Cost Analysis Improvement Group; the Director of Operational Test and Evaluation; the Assistant Secretary of the Army (Acquisition, Logistics, and Technology); the Army's Training and Doctrine Command; Surface Deployment and Distribution Command; the Program Manager for the Future Combat System (Brigade Combat Team); the Future Combat System Lead Systems Integrator; and other contractors. We reviewed, among other documents, the Future Combat System's Operational Requirements Document, the Acquisition Strategy Report, the Baseline Cost Report, the Critical Technology Assessment and Technology Risk Mitigation Plans, and the Integrated Master Schedule. We attended and/or reviewed the results of the FCS System of Systems Functional Review, In-Process Reviews, Board of Directors Reviews, and multiple system demonstrations. In our assessment of the FCS, we used the knowledge-based acquisition practices drawn from our large body of past work as well as DOD's acquisition policy and the experiences of other programs. We conducted the above in response to the National Defense Authorization Act of Fiscal Year 2006, which requires GAO to annually report on the product development phase of the FCS acquisition. We performed our review from June 2005 to March 2006 in accordance with generally accepted auditing standards.

Improved Business Case Is Needed for the FCS's Success

An improved business case for the FCS program is essential to help ensure that the program is successful in the long run. The FCS is unusual in that it is developing 18 systems and a network under a single program office and lead system integrator in the same amount of time that it would take to develop a single system. It also started development with less knowledge than called for by best practices and DOD policy.

While Progress Has Been Made, Requirements Still Remain Uncertain

The Army has made significant progress defining FCS's system of systems requirements, particularly when taking into account the daunting number of them involved—nearly 11,500 at this level. Yet system-level requirements are not yet stabilized and will continue to change, postponing the needed match between requirements and resources. Now, the Army and its contractors are working to complete the definition of system level requirements, and the challenge is in determining if those requirements are technically feasible and affordable. Army officials say it is almost certain that some FCS system-level requirements will have to be modified, reduced, or eliminated; the only uncertainty is by how much. We have previously reported that unstable requirements can lead to cost, schedule, and performance shortfalls. Once the Army gains a better understanding of the technical feasibility and affordability of the system-level requirements, trade-offs between the developer and the warfighter will have to be made, and the ripple effect of such trade-offs on key program goals will have to be reassessed. Army officials have told us that it will be 2008 before the program reaches the point which it should have reached before it started in May 2003 in terms of stable requirements.

FCS Success Hinges on Numerous Undemonstrated Technologies and Complementary Programs

Development of concrete program requirements depends in large part on stable, fully mature technologies. Yet, according to the latest independent assessment[1], the Army has not fully matured any of the technologies critical to FCS's success. Some of FCS's critical technologies may not reach a high level of maturity until the final major phase of acquisition, the start of production. The Army considers a lower level of demonstration as acceptable maturity, but even against this standard, only about one-third of the technologies are mature. We have reported that going forward into product development without demonstrating mature technologies increases the risk of cost growth and schedule delays throughout the life of the program. The Army is also facing challenges with several of the complementary programs considered essential for meeting FCS's requirements. Some are experiencing technology difficulties, and some have not been fully funded. These difficulties underscore the gap between requirements and available resources that must be closed if the FCS business case is to be executable.

[1]Technology Readiness Assessment Update, Office of the Deputy Assistant Secretary of the Army for Research and Technology, April 2005

Technology readiness levels (TRL) are measures pioneered by the National Aeronautics and Space Administration and adopted by DOD to determine whether technologies were sufficiently mature to be incorporated into a weapon system. Our prior work has found TRLs to be a valuable decision-making tool because they can presage the likely consequences of incorporating a technology at a given level of maturity into a product development. The maturity levels range from paper studies (level 1), to prototypes tested in a realistic environment (level 7), to an actual system proven in mission operations (level 9). Successful DOD programs have shown that critical technologies should be mature to at least a TRL 7 before the start of product development.

In the case of the FCS program, the latest independent technology assessment shows that none of the critical technologies are at TRL 7, and only 18 of the 49 technologies currently rated have demonstrated TRL 6, defined as prototype demonstration in a relevant environment. None of the critical technologies may reach TRL 7 until the production decision in fiscal year 2012, according to Army officials.[2] Projected dates for FCS technologies to reach TRL 6 have slipped significantly since the start of the program. In the 2003 technology assessment, 87 percent of FCS's critical technologies were projected to be mature to a TRL 6 by 2005. When the program was looked at again in April 2005, 31 percent of the technologies were expected to mature to a TRL 6 by 2005, and all technologies are not expected to be mature to that level until 2009.

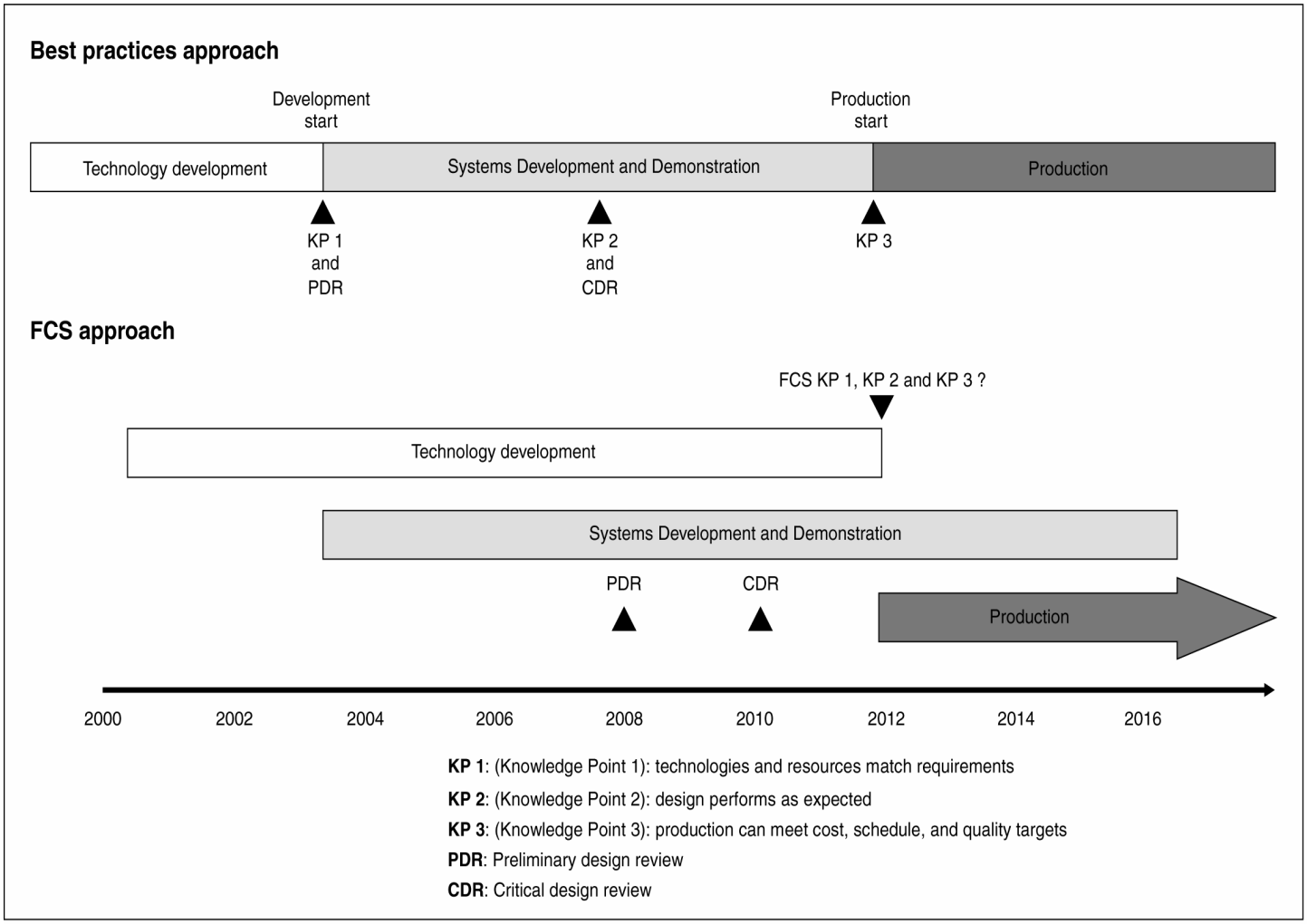
FCS Acquisition Strategy Will Demonstrate Design Maturity After Production Begins

The knowledge deficits for requirements and technologies have created enormous challenges for devising an acquisition strategy that can demonstrate the maturity of design and production processes. Several efforts within the FCS program are facing significant problems that may eventually involve reductions in promised capabilities and may lead to cost overruns and schedule delays. Even if requirements setting and technology maturity proceed without incident, FCS design and production maturity will still not be demonstrated until after the production decision is made. Production is the most expensive phase in which to resolve design or other problems.

[2]When the program started seven of 32 technologies were rated at TRL 6 and one was at TRL 7.

The Army's acquisition strategy for FCS does not reflect a knowledge-based approach. Figure 1 shows how the Army's strategy for acquiring FCS involves concurrent development, design reviews that occur late, and other issues that are out of alignment with the knowledge-based approach outlined in DOD policy.

Figure 1: Differences between Best Practices' Acquisition Approach and FCS Approach



Source: Army (data); GAO (analysis and presentation).

Ideally, the preliminary design review occurs at or near the start of product development. Doing so can help reveal key technical and engineering challenges and can help determine if a mismatch exists

between what the customer wants and what the product developer can deliver. An early preliminary design review is intended to help stabilize cost, schedule, and performance expectations. The critical design review ideally occurs midway into the product development phase. The critical design review should confirm that the system design is stable enough to build production-representative prototypes for testing.

The FCS acquisition schedule indicates several key issues:

- The program did not have the basic knowledge needed for program start in 2003. While the preliminary design review normally occurs at or near the start of product development, the Army has scheduled it in fiscal year 2008, about 5 years after the start of product development.
- Instead of the sequential development of knowledge, major elements of the program are being conducted concurrently.
- The critical design review is scheduled in fiscal year 2010, just 2 years after the scheduled preliminary review and the planned start of detailed design. The timing of the design reviews is indicative of how late knowledge will be attained in the program, assuming all goes according to plan.
- The critical design review is also scheduled just 2 years before the initial FCS low-rate production decision in fiscal year 2012, leaving little time for product demonstration and correction of any issues that are identified at that time.

The FCS program is thus susceptible to late-cycle churn, which refers to the additional—and unanticipated—time, money, and effort that must be invested to overcome problems discovered late through testing.

FCS's Higher Costs May Result in Funding Challenge

The total cost for the FCS program, now estimated at $160.7 billion (then year dollars), has climbed 76 percent from the Army's first estimate. Because uncertainties remain regarding FCS's requirements and the Army faces significant challenges in technology and design maturity, we believe the Army's latest cost estimate still lacks a firm knowledge base. Furthermore, this latest estimate does not include complementary programs that are essential for FCS to perform as intended, or all of the necessary funding for FCS spin-outs. The Army has taken some steps to help manage the growing cost of FCS, including establishing cost ceilings or targets for development and production; however, program officials told us that setting cost limits may result in accepting lower capabilities.

As FCS's higher costs are recognized, it remains unclear whether the Army will have the ability to fully fund the planned annual procurement costs for the FCS current program of record. FCS affordability depends on the accuracy of the cost estimate, the overall level of development and procurement funding available to the Army, and the level of competing demands.

At the start of product development, FCS program officials estimated that the program would require about $20 billion in then-year dollars for research, development, testing, and evaluation and about $72 billion to procure the FCS systems to equip 15 brigade combat teams. At that time, program officials could only derive the cost estimate on the basis of what they knew then—requirements were still undefined and technologies were immature. The total FCS program is now expected to cost $160.7 billion in then-year dollars, a 76 percent increase. Table 1 summarizes the growth of the FCS cost estimate.

Table 1: Comparison of Original Cost Estimate and Current Cost Estimate for FCS Program (in billions of then-year dollars)

	Original estimate	Revised estimate (as of 1/2006)	Percentage increase
Research, development, testing, and evaluation	$19.6	$30.5	56%
Procurement	$71.8	$130.2	81%
Total	**$91.4**	**$160.7**	**76%**

Source: Army (data); GAO (analysis and presentation).

According to the Army, the current cost estimate is more realistic, better informed, and based on a more reasonable schedule. It accounts for the restructure of the FCS program and its increased scope, the 4-year extension to the product development schedule, the reintroduction of four systems that had been previously deferred, and the addition of a spin-out concept whereby mature FCS capabilities would be provided, as they become available, to current Army forces. It also reflects a rate of production reduced from an average of 2 brigade combat teams per year to an average of 1.5 brigades per year. Instead of completing all 15 brigades by 2020, the Army would complete production in 2025. This cost estimate has also benefited from progress made in defining system of systems requirements.

Figure 2 compares the funding profiles for the original program and for the latest restructured program.

Figure 2: Comparison of Original Cost Estimate and Current Cost Estimate for FCS Program between Fiscal Years 2003 and 2026 (in millions of then-year dollars)

Source: U.S. Army.

The current funding profile is lower than the original through fiscal year 2013, but is substantially higher than the original after fiscal year 2013. It still calls for making substantial investments before key knowledge has been demonstrated. Stretching out FCS development by 4 years freed up about $9 billion in funding through fiscal year 2011 for allocation to other Army initiatives. Originally, FCS annual funding was not to exceed $10 billion in any one year. Now, the cost estimate is expected to exceed $10 billion in each of 9 years. While it is a more accurate reflection of program costs than the original estimate, the latest estimate is still based on a low level of knowledge about whether FCS will work as intended. The cost estimate has not been independently validated, as called for by DOD's acquisition policy. The Cost Analysis Improvement Group will not release its updated independent estimate until spring 2006, after the planned Defense Acquisition Board review of the FCS program.

The latest cost estimate does not include all the costs that will be needed to field FCS capabilities. For instance,

- Costs for the 52 essential complementary programs are separate, and some of those costs could be substantial. For example, the costs of the Joint Tactical Radio System Clusters 1 and 5 programs were expected to be about $32.6 billion (then-year dollars).[3]

- Some complementary programs, such as the Mid-Range Munition and Javelin Block II, are currently not funded for their full development. These and other unfunded programs would have to compete for already tight funding.

- Procurement of the spin-outs from the FCS program to current Army forces is not yet entirely funded. Procuring the FCS items expected to be spun out to current forces is expected to cost about $19 billion, and the needed installation kits may add $4 billion. Adding these items brings the total required FCS investment to the $200 billion range.

  Through fiscal year 2006, the Army will have budgeted over $8 billion for FCS development. Through fiscal year 2008, when the preliminary design review is held, the amount budgeted for FCS will total over $15 billion. By the time the critical design review is held in 2010, about $22 billion will have been budgeted. By the time of the production decision in 2012, about $27 billion will have been budgeted.

  The affordability of the FCS program depends on several key assumptions. First, the program must proceed without exceeding its currently projected costs. Second, the Army's annual procurement budget—not including funds specifically allocated for the modularity initiative—is expected to grow from between $11 billion to $12 billion in fiscal year 2006 to at least $20 billion by fiscal year 2011. The large annual procurement costs for FCS are expected to begin in fiscal year 2012, which is beyond the current Future Years Defense Plan period (fiscal years 2006-2011). FCS procurement will represent about 60-70 percent of Army procurement from fiscal years 2014 to 2022. This situation is typically called a funding bow wave.[4] As it prepares the next Defense Plan, the Army will face the challenge of allocating sufficient funding to meet the increasing needs for FCS procurement in fiscal years 2012 and 2013. If all the needed funding

[3]The ongoing operational assessment of the Joint Tactical Radio System functionality could result in a program restructure, which would have an impact on the program's costs.

[4]The term bow wave is used to describe a requirement for more funds just beyond the years covered in the Future Years Defense Plan that are subject to funding constraints.

cannot be identified, the Army will have to consider reducing the FCS procurement rate or delaying or reducing items to be spun out to current Army forces. However, reducing the FCS procurement rate would increase the FCS unit costs and extend the time needed to deploy FCS-equipped brigade combat teams.

FCS Business Arrangements

Given the risks facing the FCS program, the business arrangements made for carrying out the program will be critical to protecting the government's interests. To manage the program, the Army is using a lead system integrator (LSI), Boeing. As LSI, Boeing carries greater responsibilities than a traditional prime contractor. The Army is in the process of finalizing a new Federal Acquisition Regulation (FAR)-based contract in response to concerns that the previous Other Transaction Agreement was not the best match for a program of FCS's size and risks. This contract will establish the expectations, scope, deliverables, and incentives that will drive the development of the FCS.

Program Management with A Lead System Integrator

From the outset of the FCS program, the Army has employed a management approach that centers on the LSI. The Army did not believe it had the resources or flexibility to field a program as complex as FCS under the aggressive timeline established by the then-Army Chief of Staff. Although there is no complete consensus on the definition of LSI, generally, it is a prime contractor with increased responsibilities. These responsibilities may include greater involvement in requirements development, design and source selection of major system and subsystem subcontractors. The government has used the LSI approach on other programs that require system-of-systems integration. The FCS program started as a joint Defense Advanced Research Projects Agency and Army program in 2000. In 2002, the Army competitively selected Boeing as the LSI for the concept technology demonstration phase of FCS. The Army's intent is to maintain the LSI for the remainder of FCS development.

Boeing and the Army established a relationship to work in what has become known as a "one-team" management style with several first tier subcontractors to develop, manage, and execute all aspects of the FCS program. For example, Boeing's role as LSI extends beyond that of a traditional prime contractor and includes some elements of a partner to the government in ensuring the design, development, and prototype implementation of the FCS network and family of systems. In this role, Boeing is responsible for (1) engineering a system of systems solution, (2) competitive selection of industry sources for development of the

individual systems and subsystems, and (3) integrating and testing these systems to satisfy the requirements of the system of systems specifications. Boeing is also responsible for the actual development of two critical elements of the FCS information network—the System of Systems Common Operating Environment and the Warfighter-Machine Interface.

The Army participates in program decisions such as make/buy and competitive selection decisions, and it may disapprove any action taken under these processes. The decision structure of the program is made up of several layers of Integrated Product Teams. These teams are co-chaired by Army and LSI representatives. Government personnel participate in each of the integrated product teams. This collaborative structure is intended to force decision making to the lowest level in the program. Decisions can be elevated to the program manager level, and ultimately the Army has final decision authority. The teams also include representation of the Army user community, whose extensive presence in the program is unprecedented.

The advantages of using an LSI approach on a program like FCS include the ability of the contractor to know, understand, and integrate functions across the various FCS platforms. Thus, the LSI has the ability to facilitate movement of requirements and make trade-offs across platforms. This contrasts with past practices of focusing on each platform individually. However, the extent of contractor responsibility in so many aspects of the FCS program management process, including responsibility for making numerous cost and technical tradeoffs and for conducting at least some of the subcontractor source selections, is also a potential risk. As an example, many of the subcontractor source selections are for major weapon systems that, in other circumstances, would have been conducted by an Army evaluation team, an Army Contracting Officer and a senior-level Army source selection authority. These decisions, including procurement decisions for major weapons systems, are now being made by the LSI with Army involvement. This level of responsibility, as with other LSI responsibilities in the program management process, requires careful government oversight to ensure that the Army's interests are adequately protected now and in the future.

Thus far, the Army has been very involved in the management of the program and in overseeing the LSI. It is important that as the program proceeds, the Army continue to be vigilant about maintaining control of the program and that organizational conflicts of interest are avoided, such as can arise when the LSI is also a supplier. As discussed in the next

section, the Army intends the new contract to provide additional protection against potential conflicts.

Contracting Arrangements

The Army and Boeing entered into a contractual instrument called an Other Transaction Agreement (OTA). The purpose of the OTA was to encourage innovation and to use its wide latitude in tailoring business, organizational, and technical relationships to achieve the program goals. The original OTA was modified in May 2003 and fully finalized in December 2003 for the Systems Development and Demonstration phase of the FCS program. The latest major modification to the OTA, to implement the 2004 program restructuring, was finalized in March 2005.

As you know, questions have been raised about the appropriateness of the Army's use of an OTA for a program as large and risky as FCS. The Airland Subcommittee held a hearing in March 2005 which addressed this among other issues. In particular, concern has been raised about the protection of the government's interests under the OTA arrangement and the Army's choice to not include standard FAR clauses in the OTA. In April 2005, the OTA was modified by the Army to incorporate the procurement integrity, Truth in Negotiations, and Cost Accounting Standards clauses.

In April 2005, the Secretary of the Army decided that the Army should convert the OTA to a FAR-based contract. A request for proposals was issued by the Army on August 15, 2005. An interim letter contract was issued on September 23, 2005. The Systems Development and Demonstration work through September 2005 will be accounted for under the OTA and all future work under the FAR-based contract. Boeing/SAIC and all of the FCS subcontractors were to submit a new certifiable proposal for the remainder of Systems Development and Demonstration and that will be the subject of negotiations with the Army. The Army expects the content of the program—its statement of work—will remain the same and they do not expect the cost, schedule, and performance of the overall Systems Development and Demonstration effort to change materially. The target date for completion of the finalized FAR contract is March 28, 2006. In the coming months, we will be taking a close look at the new contract as part of our continuing work on FCS that is now mandated by the Defense Authorization Act for Fiscal Year 2006.

The FAR-based contract is expected to include standard FAR clauses, including the Truth in Negotiations and Cost Accounting Standards clauses. The letter contract includes Organizational Conflict of Interest clauses whereby Boeing and SAIC can not compete for additional FCS

subcontracts. Also, other current subcontractors can compete for work only if they do not prepare the request for proposals or participate in the source selection process.

The last major revision of the OTA in March 2005 had a total value of approximately $21 billion. Through September 2005 the Army and LSI estimate that about $3.3 billion will be chargeable to the OTA. The FAR based contract will cover all activity after September 2005 and is expected to have a value of about $17.4 billion. Both the OTA and the FAR-based contract will be cost plus fixed fee contracts with additional incentive fees. According to the Army, the fee arrangement is designed to address the unique relationship between the Army and the LSI and to acknowledge their "shared destiny" by providing strategic incentives for the LSI to prove out technologies, integrate systems, and move the program forward to production, at an affordable cost and on schedule. In the OTA, the annual fixed fee was set at 10 percent of estimated cost and the incentive fee available was 5 percent.

The Army plans to change the fee structure for the FCS program in the new contract. The request for proposals for the new contract proposed a 7 percent fixed fee and an 8 percent incentive fee. The OTA established 10 distinct events where LSI performance will be evaluated against pre-determined performance, cost, and schedule criteria. (Those events are expected to be retained in the FAR contract.) One event has already occurred—the System of Systems Functional Requirements Review was held in August 2005. The next event is called the Capabilities Maturity Review and it is expected to occur in June or July 2006. As the details are worked out, it is important that the new contract encourage meaningful demonstrations of knowledge and to preserve the government's ability to act on knowledge should the program progress differently than planned.

Mr. Chairman, this concludes my prepared statement. I would be happy to answer any questions that you or members of the Subcommittee may have.

Contacts and Staff Acknowledgements

For future questions about this statement, please contact me at (202) 512-4841. Individuals making key contributions to this statement include Robert L. Ackley, Lily J. Chin, Noah B. Bleicher, Marcus C. Ferguson, William R. Graveline, Guisseli Reyes, Michael J. Hesse, John P. Swain, Robert S. Swierczek, and Carrie R. Wilson.

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