Audit Report

OFFICE OF THE INSPECTOR GENERAL

CONTRACTING PRACTICES FOR THE USE AND OPERATIONS OF DOD-SPONSORED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS

Report No. 95-048 December 2, 1994

This special version of the report has been revised to omit contractor sensitive data.

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Acronyms

C^3I	Command, Control, Communications, and Intelligence
CNA	Center for Naval Analyses
DCAA	Defense Contract Audit Agency
DFARS	Defense Federal Acquisition Regulation Supplement
DSS-W	Defense Supply Service-Washington
FAR	Federal Acquisition Regulation
FFRDC	Federally Funded Research and Development Center
IDA	Institute for Defense Analyses
IPA	Intergovernmental Personnel Act
LMI	Logistics Management Institute
OFPP	Office of Federal Procurement Policy

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
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December 2, 1994

MEMORANDUM FOR DIRECTOR, DEFENSE RESEARCH AND ENGINEERING
ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE)
DEPUTY UNDER SECRETARY OF DEFENSE (LOGISTICS)
ASSISTANT SECRETARY OF THE NAVY (FINANCIAL MANAGEMENT)
ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL MANAGEMENT AND COMPTROLLER)
DIRECTOR, ADVANCED RESEARCH PROJECTS AGENCY
AUDITOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Audit Report on Contracting Practices for the Use and Operations of DoD-Sponsored Federally Funded Research and Development Centers (Report No. 95-048)

We are providing this report for your review and comment. The audit was in response to House Report No. 102-95, "Department of Defense Appropriation Bill, 1992," direction to the Inspector General, DoD, to examine the use of DoD federally funded research and development centers.

DoD Directive 7650.3 requires that all audit recommendations and potential monetary benefits be resolved promptly. The Director, Defense Research and Engineering; the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence); the Deputy Under Secretary of Defense (Logistics); the Service Acquisition Executives; and the Director, Advanced Research Projects Agency, comments were not received in time to be included in the final report. Therefore, we request that all addressees provide comments on the recommendations and potential monetary benefits by February 2, 1995.

We appreciate the courtesies extended to the audit staff. If you have any questions on this audit, please contact Mr. Garold E. Stephenson, Audit Program Director, at (703) 604-9332 (DSN 664-9332) or Mr. John M. Gregor, Audit Project Manager, at (703) 604-9321 (DSN 664-9321). Copies of the the final report will be distributed to the organizations listed in Appendix U. The audit team members are listed inside the back cover.

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Deputy Assistant Inspector General
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This special version of the report has been revised to omit contractor sensitive data.

Office of the Inspector General, DoD

Report No. 95-048 **December 2, 1994**
(Project No. 1CH-5012)

CONTRACTING PRACTICES FOR THE USE AND OPERATIONS OF DOD-SPONSORED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS

EXECUTIVE SUMMARY

Introduction. This audit was performed in response to direction contained in House Report No. 102-95 "Department of Defense Appropriations Bill, 1992," that the Inspector General, DoD, examine the use of DoD federally funded research and development centers (FFRDCs). This report is the third in a series of reports on DoD FFRDCs.

Objectives. The objectives of the audit were to determine whether:

o FFRDCs adhered to mission statements and sponsoring agreements,

o criteria used to develop overhead rates for the FFRDCs were in accordance with Government standards, and

o any violations of conflicts of interest regulations existed either in the FFRDC operation or structure or in the DoD relationship with the FFRDC.

We also determined whether management fees were properly justified, and we evaluated applicable internal controls.

Audit Results. We concluded that work performed by DoD FFRDCs was generally consistent with their broad mission statements. However, DoD sponsors did not provide sufficient justification for using FFRDCs to perform 223 of the 229 projects reviewed. As a result, DoD sponsors could not demonstrate that the noncompetitive assignment of work to the FFRDCs kept DoD sponsor costs down and resulted in the best performance (Finding A).

DoD FFRDCs generally developed overhead rates that were in accordance with Government standards. However, the accounting for $43 million of the $46.9 million in management fees paid to DoD FFRDCs was not correct. About $11.6 million of management fees should not have been paid, and $31.4 million should have been charged to overhead. Also, a Navy approved increase in management fee payments to the Center for Naval Analyses increased contract costs by about $2.7 million annually but does not provide any measurable benefits to the Navy (Finding B).

DoD FFRDCs had various conflict of interest policies that indicated a general awareness of their responsibility to avoid conflict of interest situations. However, contracting officers did not thoroughly consider potential conflicts of interest involving work assigned to DoD FFRDCs. The Navy's payment of incorporation fees to the Center for Naval Analyses was incorrect. Also, one FFRDC employee, who was on an Intergovernmental Personnel Act appointment with the Advanced Research Projects Agency, was responsible for directing the activities of another FFRDC. Further, in four instances, FFRDCs appeared to hire employees only to qualify the employees for Intergovernmental Personnel Act appointments requested by DoD. Overall, contracting officers needed better procedures to ensure that potential conflicts of interest were avoided or identified (Finding C).

Internal Controls. Internal management controls were inadequate to ensure the noncompetitive assignment of work was justified and to limit the payment of management fees to DoD FFRDCs. Contracting officials were not complying with established guidelines and were not adequately assessing the potential for conflicts of interest involving the FFRDCs. We consider the weaknesses to be material. See Part I for details of the internal controls reviewed and Part II for details of the weaknesses.

Potential Benefits of Audit. Benefits should derive from better assurances that work is appropriately assigned to the FFRDCs, that management fee awards are properly justified and accounted for, and that potential conflicts of interest are properly controlled and mitigated. We could not quantify those benefits. Management fees could be reduced by about $58 million over the next 5 years by not paying for unallowable costs and by not funding contingencies. Another $2.7 million could be avoided annually by rescinding the Navy's FY 1993 management fee increase to the Center for Naval Analyses. Appendix S summarizes the potential benefits resulting from the audit.

Summary of Recommendations. We recommend that DoD strengthen controls over the screening and assignment of work to FFRDCs, to include ensuring the performance of market surveys. We recommend that DoD improve controls over the award of management fees. We recommend improved contracting officer reviews of FFRDC operations and use of appropriate contract clauses to ensure that conflicts of interest are controlled. Also, we recommend excluding assignment, under Intergovernmental Personnel Act agreements, of FFRDC personnel to DoD positions that involve oversight of another FFRDC.

Management Comments. The Director, Defense Research and Engineering; the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence); the Deputy Under Secretary of Defense (Logistics); the Service Acquisition Executives; and the Director, Advanced Research Projects Agency, comments were not received in time to be considered in preparing the final report. Therefore, we request comments from them on this final report by February 2, 1995.

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This report was prepared by the Contract Management Directorate, Office of the Assistant Inspector General for Auditing, DoD.

Part I - Introduction

Background

Origin of Federally Funded Research and Development Centers. During World War II, the Government entered into contracts with universities and industrial firms to accomplish specialized research and development needs. The initial contracts were awarded for development of nuclear energy (Manhattan Project), for development of effective proximity fuses for anti-aircraft ammunition (Johns Hopkins University Applied Physics Laboratory), and for research in rockets (Jet Propulsion Laboratory of the California Institute of Technology). The critical roles of university scientists and private contractors in Defense work led to continuation of arrangements with universities and private contractors for advice on how to develop and assemble weapon systems. The need for technical advice from people who were not Government employees arose partly because Government salary and personnel ceilings prevented DoD, and particularly the Air Force, from hiring enough scientists and technicians to satisfy demands.

The issue of conflicts of interest in contracting for research and development led the Air Force to establish the RAND Corporation in 1948. RAND Corporation was the first independent, nonprofit research organization formed specifically to conduct research for DoD. The administrative pattern of a nonprofit corporation was subsequently emulated by the Aerospace Corporation, the MITRE Corporation, the Institute for Defense Analyses, the Logistics Management Institute, and the Center for Naval Analyses.

Current Sponsorship of Federally Funded Research and Development Centers. As of October 1993, DoD sponsored 10 federally funded research and development centers (FFRDCs).

o The Institute for Defense Analyses performs studies and analyses for the Office of the Secretary of Defense and test and evaluation for the Director, Operational Test and Evaluation. Also, the Institute for Defense Analyses supports the National Security Agency in cryptology and supercomputing and processing technologies under separate contracts.

o Project AIR FORCE, the National Defense Research Institute, and the Arroyo Center are operated by the RAND Corporation and perform studies and analyses for the Air Force, the Office of the Secretary of Defense, and the Army, respectively.

o The Center for Naval Analyses performs studies and analyses for the Navy and the Marine Corps.

o The Logistics Management Institute performs studies and analyses for the Office of the Secretary of Defense.

o The Aerospace Corporation performs systems engineering and integration support for the Air Force.

o The MITRE Corporation Command, Control, Communications, and Intelligence Division, (MITRE C^3I Division) performs systems engineering support for the Army, the Air Force, the Navy, the Marine Corps, and the Office of the Secretary of Defense.

o The Lincoln Laboratory provides laboratory support to the Air Force in the area of advanced electronics. Lincoln Laboratory is operated by the Massachusetts Institute of Technology, Cambridge, Massachusetts.

o The Software Engineering Institute performs software engineering research for the Advanced Research Projects Agency and the Military Departments. The Software Engineering Institute is operated by Carnegie-Mellon University, Pittsburgh, Pennsylvania.

See Appendix A for the missions of each DoD FFRDC as presented in the DoD FFRDC Management Plan. See Appendix B for a discussion of the criteria for using FFRDCs.

Former Army-Sponsored FFRDC. From May 1990 to October 1993, the Institute for Advanced Technology at the University of Texas at Austin was an Army-sponsored FFRDC. Its status as an FFRDC was terminated as a result of the Army reevaluating its requirements relative to electromechanics and hypervelocity physics. The Institute for Advanced Technology conducted research in support of the Army electric gun program.

Contractual Relationship Between DoD Sponsors and FFRDCs. All of the DoD FFRDCs are operated under cost-type contracts that are awarded noncompetitively for 5 years. Specific projects are assigned through administrative procedures without competition from possible alternative research organizations. Because the FFRDCs are managed by private organizations, restraints on personnel policies are contractual.

Congressional Funding Ceilings on DoD FFRDCs. Since 1965, Congress at various times has placed ceilings on the budgets for DoD FFRDCs. The funding restrictions resulted from concerns over the growth and the need for controls over the use of the FFRDCs. The Director, Defense Research and Engineering, has usually been free to make allocations within the budgetary pool. Most recently, in House Report No. 103-200, "National Defense Authorization Act For Fiscal Year 1994," July 30, 1993, the House Committee on Armed Services stated that:

> Since their establishment, the United States has witnessed a tremendous growth in private sector firms that offer sophisticated R&D [research and development] capabilities that often match or exceed the capabilities of the government-sponsored FFRDCs. The committee is concerned about the rapid funding growth of some

> FFRDCs, the diversification of some center activities into areas beyond the scope of their original mission, and apparent FFRDC competition with the private sector for federal support.
>
> In fiscal year 1993, the committee instructed the department to reduce funding for each of its FFRDCs by three percent. However, preliminary funding data supplied by the department suggest that FFRDC funding would increase by about two percent in fiscal year 1994. Consequently, the committee directs the Secretary of Defense to limit total funding in fiscal year 1994 for FFRDCs to $1.3 billion. This represents about a 10 percent reduction from the fiscal year 1993 funding level of $1.444 billion for FFRDCs.

Objectives

The objectives of the audit as requested by House Report No. 102-95, "Department of Defense Appropriations Bill, 1992," June 4, 1991, were to determine whether:

- o FFRDCs adhered to mission statements and sponsoring agreements,
- o criteria used to develop overhead rates for the FFRDCs were in accordance with Government standards, and
- o any violations of conflicts of interest regulations existed either within the FFRDC operation or structure or in the DoD relationship with the FFRDC.

We also determined whether management fees were properly justified, and we evaluated applicable internal controls.

Scope and Methodology

FFRDC Projects Selected for Review. We judgmentally selected 229 projects or taskings (hereafter referred to as projects), valued at $293.8 million, that were active at the 10 FFRDCs during FYs 1990 or 1991. We selected projects for the Institute for Advanced Technology, but discontinued our review of the projects after the Army made the decision to discontinue sponsoring the Institute for Advanced Technology as an FFRDC. Total funding for the 10 FFRDCs during FYs 1990 and 1991 was $2.9 billion. The projects reviewed, their value, and total funding for each FFRDC is summarized in Appendix C.

Factors considered in selecting the projects included cost, sponsoring office, and project work descriptions that appeared suitable for performance by non-FFRDC contractors. For each project selected, we requested the sponsor to complete a questionnaire on why the project was initiated, how the project was administered, and what results were obtained. We interviewed sponsoring officials as required to clarify questionnaire responses. A summary evaluation by FFRDC of projects reviewed is in Appendix D.

Review of Overhead Rates and Fees. We requested the 10 FFRDCs to provide information on how their overhead rates were developed, information on the justification for management fees, and cost information on how they used the management fees. We did not verify the FFRDC cost information on uses of the management fees to source documentation. We also requested the contracting officers for each FFRDC to answer questions regarding the reasonableness of the overhead rates and management fees.

DCAA Review of FFRDCs. We met with Defense Contract Audit Agency (DCAA) officials who performed audits of FFRDC proposals, incurred costs, and overhead rates. We examined audit reports issued by DCAA on each FFRDC from 1988 through 1993. The 141 DCAA reports are listed in Appendix O. DCAA performed reviews of accounting systems, disclosure statements, pricing proposals, and incurred costs for each FFRDC. The purpose of the DCAA reviews was to determine whether:

o the accounting system was considered acceptable for segregation, accumulation, and reporting of costs under Government contracts;

o the disclosure statement adequately described the cost accounting practices that the FFRDC proposed to use to perform Government contracts and complied with applicable cost accounting standards or Federal Acquisition Regulation (FAR) part 31, "Contract Cost Principles and Procedures;"

o the proposal was prepared in accordance with applicable cost accounting standards; and

o the incurred costs were reasonable and allocable.

DCAA determined that each FFRDC had adequate accounting systems to obtain Government contracts, had disclosure statements that adequately described the FFRDC cost accounting practices, and had prepared and submitted proposals in accordance with applicable cost accounting standards and appropriate provisions of the FAR. Based on the work performed by DCAA, we concluded that criteria used to develop overhead rates for FFRDCs were generally in accordance with Government standards.

Review of Conflicts of Interest. We requested the contracting officer for each FFRDC to answer questions concerning implementation of FAR subpart 9.5, "Organizational Conflicts of Interest," and procedures for ensuring that potential

conflicts of interest are identified. We also requested the sponsors for the 229 projects reviewed to identify specific safeguards against conflicts of interest. We also reviewed FFRDC operating procedures for organizational and personal conflicts of interest, information on the boards of trustees for the FFRDCs, and boards of trustees meetings for 1990 and 1991.

Scope Limitation. Because of security considerations, we did not examine two noncompetitive contracts awarded by the National Security Agency to the Institute for Defense Analyses. We believe that this exclusion does not affect the results of our audit. We did obtain responses from the National Security Agency for seven projects that we reviewed.

Followup on Prior Audit Recommendations. We considered the results of prior audits performed by the Inspector General, DoD, and the Air Force Audit Agency that addressed the DoD FFRDCs. Appendix O summarizes the reports.

Audit Period, Standards, and Locations. This program audit is based on work performed from October 1991 through June 1994. The audit was made in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. Accordingly, we included such tests of internal controls as were considered necessary. We did not rely on any computer-processed data to conduct this audit. Appendix T lists the organizations visited or contacted during the audit.

Internal Controls

Internal Controls Reviewed. The audit evaluated internal controls related to the assignment of work to FFRDCs, the justification and administration of management fees awarded to FFRDCs, and the controls over the identification and prevention of conflicts of interest.

Adequacy of Implementation of the DoD Internal Management Control Program. The Military Department implementation of the DoD Internal Management Control Program was not effective because management did not adequately assess the need for FFRDC services or controls over conflicts of interest. Therefore, the program did not identify material control weaknesses in assigning projects, paying management fees, and controlling conflicts of interest.

Adequacy of Internal Controls. The audit identified material control weaknesses as defined by DoD Directive 5010.38, "Internal Management Control Program," April 14, 1987. Internal controls were not effective to ensure that FFRDC resources, including management fees, were properly utilized and that the costs charged to DoD by the FFRDCs were fair and reasonable. In addition, internal controls were not effective to identify and

prevent potential conflicts of interest. Details of the weaknesses are discussed in Part II. The recommendations in Findings A and B and Recommendations C.1. and C.3., if implemented, will correct the weaknesses. Appendix S describes the potential monetary benefits that can be realized by implementing the recommendations to correct internal control weaknesses. A copy of the report will be provided to the senior officials responsible for internal controls for the Under Secretary of Defense for Acquisition and Technology and the Military Departments.

Prior Audits and Other Reviews

During the last 5 years, the General Accounting Office; the Office of the Inspector General, DoD; the Office of Assistant Secretary of the Navy (Research, Development, and Acquisition); the Air Force Audit Agency; the Congressional Research Service; and the Senate Subcommittee on Oversight of Government Management, Committee on Governmental Affairs, issued 13 reports addressing requirements and cost-effectiveness issues involving the DoD FFRDCs. A summary of these prior audits and other reviews is in Appendix O. Also, Appendix O lists 141 Defense Contract Audit Agency reports that we considered in our assessment of the overhead costs and management fees for the 10 DoD FFRDCs.

Part II - Findings and Recommendations

Finding A. Use of Federally Funded Research and Development Centers

DoD sponsors did not sufficiently justify the noncompetitive use of FFRDCs to perform 223 of the 229 projects reviewed. This condition occurred because FFRDC mission statements did not identify unique FFRDC capabilities and expertise, and the justifications for noncompetitively assigning the projects did not identify:

o what unique FFRDC capabilities were needed to perform the research work, or

o why or how FFRDCs could perform the work more effectively even though potential alternatives were considered and identified for 193 projects.

Sponsors also had not performed cost comparisons to show that utilizing the FFRDCs to provide the needed support was less costly than utilizing DoD civilian personnel. As a result, sponsors could not demonstrate that the noncompetitive assignment of work to the FFRDCs kept DoD sponsor costs down and resulted in the best performance.

Background

FFRDCs Should Possess Unique Capabilities. FFRDCs are intended to assist the Government in accomplishing specialized missions, the effective performance of which requires unique capabilities or specialized skills. The establishment, use, periodic review, and termination of FFRDC resources are governed by guidance contained in Office of Federal Procurement Policy (OFPP) Letter 84-1, "Federally Funded Research and Development Centers," as implemented by FAR 35.017, "Federally Funded Research and Development Centers." The Director, Defense Research and Engineering, has issued a management plan and the DoD sponsors have issued criteria for using the FFRDCs. Appendix B provides details on these criteria.

Questionnaire on Use of the FFRDCs. We obtained data from the 10 DoD FFRDCs and their sponsors on projects that the FFRDCs worked on during FYs 1990 and 1991. The data showed that the FFRDCs worked on about 1,400 projects, valued at about $1.5 billion, during FY 1991. Because specific reasons for using the FFRDCs were not documented by the sponsors, we requested the individual sponsors to provide information in response to a questionnaire on the reasons for using the FFRDCs. We judgmentally selected

229 projects that were funded for $293.8 million that the FFRDCs worked on during FYs 1990 and 1991 and requested the sponsors to identify the specific reasons for assigning the work to the FFRDCs.

Reasons For Assigning Work. In response to the questionnaire, the sponsors for the 229 projects cited from 1 to 5 reasons why the projects were assigned to the FFRDCs. Table 1 summarizes the reasons and the number of times cited for the 229 projects and taskings.

Table 1. Unique Expertise Cited as Most Common Reason For Using FFRDCs

Reasons for Using FFRDC	Times Cited
FFRDC had unique expertise or knowledge	181
Ease and quickness influenced decision to use FFRDC	70
FFRDC was independent and objective	53
FFRDC was more cost- or operationally effective	50
FFRDC had access to sensitive or proprietary data	45
In-house staff fully employed or unavailable	41
Project needed a quick response	22
Funds could only be used at FFRDC	11
Project initiated by FFRDC	8
FFRDC submitted best proposal to solicitation	6

Justifications For Noncompetitive Use of FFRDCs

Sufficiency of Justifications for Use of FFRDCs. DoD sponsors did not provide adequate justifications for the noncompetitive use of the FFRDCs for 223 of the 229 projects reviewed. Assignment of the remaining six projects to two FFRDCs was based on competition. Although OFPP Policy Letter 84-1 and the FAR specifically prohibit FFRDCs from competing for work, we believe that competition provided better evidence that the FFRDCs could more effectively perform the work on the six projects than the reasons provided for the other projects.

Appendix D is a summary evaluation of the 229 projects reviewed at the 10 FFRDCs. Appendixes E through N provide details on the individual projects reviewed for each FFRDC. The reasons cited by the sponsors for using the FFRDCs, including our rationale that the reasons for 223 projects did not sufficiently support use of the FFRDC and that the reason for 6 projects was considered appropriate, are as follows.

FFRDC Had Unique Expertise or Knowledge. None of the sponsors identified specific skills or knowledge that supported their assertions that the specialized expertise was unique to the FFRDC or that the level of expertise applied was necessary to the project's success. Sponsors for 181 projects stated that FFRDCs were selected because they possessed unique expertise that was essential to the success of the projects. This specialized expertise included prior experience of the FFRDC staff, maintenance of special models or data bases, and maintenance of a "corporate knowledge."

Prior Experience of FFRDC Staff. An example of a project for which the sponsor stated that prior experience was a factor in selecting the FFRDC was the study of the Persian Gulf Conflict performed by the Institute for Defense Analyses (IDA). The sponsor stated that a retired Navy rear admiral, who headed the Plans Directorate of the U.S. Central Command immediately before and during Operations Desert Shield and Desert Storm and who was on the IDA staff, was the principal reason why IDA was best qualified to perform the study. The sponsor stated that this IDA analyst knew where to find the significant issues that might have eluded other researchers, thereby conserving substantial time and money by not having to do considerable research to identify appropriate sources. The justification did not address the question of the influence that this former command official would have on the objectivity of any study conclusions or why only this person could identify the significant issues.

FFRDC Development of Specialized Models or Data Bases. Examples of projects for which the sponsors cited the maintenance of specialized models or data bases as a factor included the Marine Corps Enlisted Retention study performed by the Center for Naval Analyses (CNA) and the study on Flexible Readiness Management performed by the Logistics Management Institute (LMI). The sponsor for the CNA study stated that CNA had the data on enlistments and reenlistments that were needed for the study. The sponsor for the LMI study stated that LMI had developed a special data retrieval system to access manpower and force data and that only LMI had the expertise to conduct an analysis using the system. The justifications did not explain why another contractor or an in-house organization that performs program evaluations could not have performed the studies as effectively.

Corporate Knowledge of FFRDC Staff. Another sponsor stated that the Aerospace Corporation was uniquely qualified to provide systems engineering and integration support for the Space Test Program because Aerospace Corporation had provided the continuity and had the institutional memory for the program. The sponsor stated that the Air Force Space and Missile Systems Center had predominantly staffed the Space Test Program Office with military officers who had not stayed with the program, allowing the Aerospace Corporation to develop the institutional memory. The justification implied that Aerospace Corporation was performing essential core functions that should be performed by Air Force civilian personnel but were not because of Air Force staffing limitations. The lack of corporate knowledge of the Space

and Missile Systems Center staff placed them at a disadvantage in attempting to control and ensure that the FFRDC effectively performed assigned work and in ensuring that all work was essential to program accomplishment.

FFRDC Was Easier and Quicker to Use. Sponsors for 70 projects stated that the primary reason for assigning the work to the FFRDCs was because obtaining support services from FFRDCs was easier and quicker than using normal competitive procedures and that these factors influenced their decisions to use FFRDCs. Work assignments to FFRDCs should be based on the need for unique expertise or capabilities and not on the convenience of using an FFRDC. Sponsors believed that the FFRDCs were easier and quicker to use because of the prior involvement of the FFRDCs with sponsor requirements. While ease and speed did not influence their decisions to use the FFRDCs, sponsors for another 93 projects also stated that the FFRDCs were easier and quicker to use.

FFRDC Was Independent and Objective. The sponsors for 53 projects cited independence and objectivity as reasons for assigning the work to the FFRDCs. Sponsors justified projects to Aerospace Corporation and MITRE C^3I Division because these FFRDCs were independent of for-profit contractors producing hardware. Sponsors of projects assigned to the studies and analysis FFRDCs stated that these FFRDCs were independent of the existing views or preferences of in-house managers or operations and other service contractors. We concluded that, in each of the 53 instances cited, other for-profit or non-profit contractors could have performed the work if contractual restrictions were placed on the contractor. Contractors are advised of such restrictions by notices in solicitations and by clauses in resulting contracts. Conflicts of interest restriction problems are discussed in Inspector General, DoD, Report No. 94-174, "Organizational and Consultant Conflicts of Interest," August 10, 1994, which is summarized in Appendix O.

FFRDC Was More Cost- or Operationally Effective. Sponsors cited cost or operational effectiveness as reasons for using the FFRDCs on 50 projects. Air Force sponsors stated that Project AIR FORCE was more effective than in-house or other contractor resources for 20 projects, according to determinations made during the 1990 renewal of the 5-year sole-source contract with Project AIR FORCE. However, the Air Force did not provide sufficient justification to support this assertion relative to the overall contract or for the individual projects reviewed. Also, the sponsors for another 30 projects stated that the FFRDCs could do the work at less cost because they were familiar with the area and could avoid start-up costs that less-experienced contractors would have to incur, but the project sponsors provided no other evidence to support their belief that the FFRDCs were cost-effective.

FFRDCs Had Access to Sensitive or Proprietary Data. Sponsors stated that 45 projects were either sensitive or required access to proprietary information. Sponsors stated that in-house resources could have done the work on 7 of the 45 projects. For the remaining 38 projects, the sponsors did not

indicate why in-house resources were not appropriate for performance of such assignments. We concluded that this factor could also be resolved through contractual restrictions on contractors or through hiring additional in-house personnel to perform the work.

In-House Staff Was Fully Employed or Not Available. The sponsors for 41 projects stated that proposed projects were assigned to FFRDCs because the existing in-house staff with the necessary skills were fully employed and because personnel ceilings restricted further hiring. All 10 DoD FFRDCs were represented by the 41 projects. However, none of the sponsors stated that they had taken any action to obtain authorization for additional in-house staffing or to recruit persons with the needed skills and knowledge.

Projects Needed a Quick Response. The need for a quick or timely response was cited by sponsors on 22 projects. However, none of the sponsors explained why the needed work could not have been procured by justifying an exception to competition authorized under FAR 6.302-2, "Unusual and Compelling Urgency," to obtain the required services from non-FFRDC contractors.

Funds Could Only Be Used at FFRDC. The sponsors for 11 projects cited the availability of FFRDC studies money as the reason for using the FFRDC rather than using an in-house organization or a non-FFRDC contractor to perform the tasking. This justification was cited on five projects assigned to the Arroyo Center, five projects assigned to the National Defense Research Institute, and one project assigned to the Software Engineering Institute. Funds for these projects were made available to the sponsors only for use at the FFRDC. While capable alternatives were available that could do the work, the use of those alternatives would have had to be funded with the sponsors' funds. Therefore, in the view of the sponsor, the use of the FFRDC was more cost-effective. For example, the Army Forces Command identified another contractor that could have done work involving analysis of Army force structures, but the Arroyo Center was selected for this $598,000 study because of the availability of studies funding for the FFRDC.

Project Was FFRDC-Initiated. Sponsors for eight projects stated that the work was self-initiated by the FFRDCs. The Arroyo Center performed six projects that involved force structuring and training, budget or cost analysis, and environmental study. CNA performed one project that involved the role of Naval forces in the Middle East. MITRE C^3I Division performed one project that involved development of Ada software prediction models. Each FFRDC contract allowed FFRDCs to perform exploratory research to develop enhanced skills in support of their sponsors. While the work was subject to sponsor approval, none of the sponsors identified any unique FFRDC skills that were applied to the project or that were developed from the work.

FFRDC Submitted the Best Proposal. Sponsors for six projects stated that the FFRDC was selected because its proposal was judged the best qualified

among competing alternatives responding to broad agency announcements. Proposals submitted by Lincoln Laboratory were judged the most qualified among competitors, and sponsors made awards to Lincoln Laboratory on five projects. One project, RAND Advanced Simulation Language, was assigned to the RAND National Defense Research Institute because no contractor addressed the specific research objective included in a broad agency announcement issued by the Advanced Research Projects Agency. While we recognize that FFRDC competition for work is prohibited, we consider the reasons for assignment of these projects to the FFRDCs to be appropriate because competition determined the FFRDC could best perform the work.

FFRDCs Prohibited From Competing For Work. OFPP Letter 84-1 and FAR 35.017-1, "Sponsoring Agreements," specifically prohibit FFRDCs from competing with universities and contractors in response to a Federal agency request for proposal for other than operation of an FFRDC. Considering our review of the justifications for the work assigned to the FFRDCs, we believe that more competition should be injected into the assignment of some work to the FFRDCs.

Identifying Unique FFRDC Capabilities and Expertise

Differentiating Work Unique to FFRDCs in Mission Statements. The DoD FFRDC mission statements do not differentiate work appropriate for an FFRDC from work that should be done by DoD personnel or non-FFRDC contractors. The mission statements provide broad definitions of the types of work that the FFRDCs will perform. DoD sponsors have not prepared detailed mission statements that differentiate FFRDC efforts from work to be performed by a non-FFRDC because the sponsors did not conduct adequate comprehensive reviews to identify unique capabilities that the FFRDCs should possess. The mission statements as presented in the DoD FFRDC Management Plan are shown in Appendix A.

Conducting Thorough Comprehensive Reviews to Identify Unique FFRDC Capabilities. Inspector General, DoD, Report No. 94-012, "Sole-Source Justifications for DoD-Sponsored Federally Funded Research and Development Centers," November 4, 1993, states that DoD sponsors did not conduct thorough comprehensive reviews of the continued need for FFRDCs. The DoD sponsors did not adequately document their specific research needs or document their bases for stating that no other resources could effectively meet required research needs. Formal market surveys were not conducted and determination of the FFRDCs' efficiency and effectiveness was based on sponsors' personal opinions. The sponsors based the comprehensive reviews and the justifications for 5-year sole-source contracts for the FFRDCs on the continuing long-term need for the services provided by the FFRDCs. Inspector General, DoD, Report No. 94-012 is synopsized in Appendix O.

We believe that thorough comprehensive reviews are important because the identification of valid work requirements for the FFRDCs is the foundation for justification for noncompetitive contracts, FFRDC mission statements, and all succeeding project or task assignments. The mission statements should focus on the niches for which in-house and private sector research capabilities are lacking.

Identifying Unique Project Requirements. In justifications for noncompetitively assigning projects, DoD sponsors did not identify unique FFRDC capabilities that were needed to successfully perform required research work. Identifying unique FFRDC capabilities in project descriptions would better ensure the appropriateness of noncompetitive work assignments to the FFRDCs.

Considering Potential Alternatives to FFRDCs

The sourcing decisions for the 223 projects reviewed that were noncompetitively assigned to the FFRDCs were not supported by convincing rationale that potential alternatives could not accomplish the work. The justifications for assigning projects to the FFRDCs should document the analysis of other servicing options in reaching the conclusion that the FFRDCs are best suited to perform the work.

Consideration of Non-FFRDC Contractors. The DoD sponsors had not conducted adequate market surveys to identify the extent of alternative sources to meet their needs or to support assertions that the alternatives could not do the work as efficiently and effectively as the FFRDCs. DoD sponsors indicated that they identified and considered either non-FFRDC contractors, in-house personnel, or both, for 193 of the projects we reviewed. However, the DoD sponsors did not define effectiveness characteristics for work assigned to the FFRDCs in terms of quantity, timeliness, quality, and customer satisfaction. The work performed by the studies and analyses and systems engineering FFRDCs is closely related to the plans, programs, and operations of their sponsors. The sponsors did not support:

- that the level of skills and knowledge that the FFRDCs used to perform the work were required or
- that the skills and knowledge were unique to the FFRDCs.

Some contractors, such as Analytic Services, Incorporated; Johns Hopkins University Applied Physics Laboratory; and the Pennsylvania State University Applied Research Laboratory, were formerly DoD FFRDCs. These nonprofit and for-profit contractors compete for work in the same areas as the studies and analyses and system engineering FFRDCs.

Comparison With Private Contractors. The sponsors also had not compared FFRDC costs with the costs of non-FFRDC contractors performing similar types of work. Several DoD officials stated that the nonprofit corporations operating DoD FFRDCs were less costly than regular contractors. They cited lower fees as the basis for their opinion. We agree that fees may be lower; however, direct labor and overhead costs account for the majority of the costs of FFRDCs and contractor performance. DoD contracting officers should be reviewing all individual projects to the FFRDCs and should be validating that adequate market surveys were performed to justify the noncompetitive assignment to the FFRDC. If the work can be performed by non-FFRDC contractors, competition and price analysis by the contracting officers should determine the price reasonableness of contract costs.

Contracting Officer Considerations of Alternative Sources. Contracting officers did not attempt to establish the existence and effectiveness of potential alternatives to the FFRDCs before assigning individual projects against the contracts. Contracting officers issued modifications to the contracts to fund FFRDC taskings. In assigning work to the FFRDC contracts, contracting officers certified under FAR 6.303, "Justifications," paragraph 6.303-1(c), "Requirements," that individual contract actions (taskings or modifications) were within the scope of the justification and approval. Contracting officers routinely accepted the assertions made by sponsoring program officials and users that the FFRDCs were the only sources that could effectively provide needed support.

Comparison With DoD Civilian Personnel

Conducting Cost Analyses. Except for the Air Force Materiel Command, none of the DoD sponsors had performed cost comparisons to determine whether support provided by the FFRDCs was more economical than performing the work using DoD civilian personnel. DoD Directive 4205.2, "Acquiring and Managing Contracted Advisory and Assistance Services," requires cost analyses before contracting for advisory and assistance services. The Air Force Materiel Command study showed that the support provided by the Aerospace Corporation and the MITRE C^3I Division were about $31,000 and $25,700 per staff year higher than if the work was performed by Air Force civilian personnel. Procedures should be established to require sponsors to perform cost comparison studies of FFRDC and DoD in-house personnel costs as part of the comprehensive review.

Obtaining Additional In-House Staff. Except for the Air Force Materiel Command, none of the DoD sponsors assessed the effectiveness of performing work in-house versus contracting the work out, even though much of the work done by the FFRDCs was continuing and long-term in nature. DoD Directive 4205.2 requires program and contracting officials to cite actions

being taken to hire additional in-house resources or to provide an explanation of why contracting out is necessary. The Air Force Materiel Command initiated action in 1990 to reduce its use of contractor and FFRDC support at the Air Force Electronic Systems Center and the Air Force Space and Missile Systems Center. In FY 1992, the Air Force approved conversion of 50 FFRDC positions at the Electronic Systems Center and 100 FFRDC positions at the Space and Missile Systems Center to in-house positions because it made operational and economic sense. On September 10, 1993, the Deputy Assistant Secretary of the Air Force (Acquisition) suspended the conversion effort because of the conclusion of the National Performance Review that the Government should be reduced by 252,000 personnel.

Benefits of Competing FFRDC Work

Contracting Out Non-Core Functions. Outsourcing of non-core functions is recognized in the private and Government sectors as a workable means of improving operations and achieving lower costs. The report of the National Performance Review, September 7, 1993, states that the DoD will implement a comprehensive program of contracting non-core functions competitively. "Core functions" are competencies intimately related to the organization's basic mission and crucial to its long-term success. The National Performance Review identifies functions such as command, deployment, and rotation of troops as core functions. The report of the Defense Performance Review, "Outsource Non-Core Functions," July 15, 1993, states that "core functions can be performed only by an in-house workforce." The report equates core functions to the inherently governmental functions that are identified in OFPP Letter 92-1, "Inherently Governmental Functions," December 10, 1991. OFPP Letter 92-1 does not exempt the applicability of the policy from the special relationships that sponsors have with their FFRDCs.

In response to questions regarding the projects to the FFRDCs, the sponsors and contracting officers for the DoD FFRDCs stated that the FFRDCs have not performed inherently governmental functions because they provide advice and analyses that may be acted on by DoD managers. The sponsors stated that the work performed by FFRDCs should not be subjected to competition because competition would lessen the control that sponsors exercise over FFRDCs. They also stated that the Competition in Contracting Act specifically exempted FFRDCs from competition.

Exploring the Potential for Competition. Existing internal control procedures do not ensure that the FFRDCs are the most effective source for performing required work. General Accounting Office Report No. GAO/NSIAD-88-22 (OSD Case No. 7751), "Competition: Issues on Establishing and Using Federally Funded Research and Development Centers," March 7, 1988, states that the lack of competition surrounding the use of FFRDCs limited DoD ability

to know whether non-FFRDCs could do work better or at less cost. The report recommended a program to test the use of broad agency announcements to assess the potential for non-FFRDC contractors to accomplish DoD research and to improve DoD assurance that FFRDC work was the most effective. DoD disagreed with the recommendation, stating that the needs for and uses of the FFRDCs were thoroughly assessed under existing procedures. As shown from our review of the 229 projects, we believe that existing procedures have not ensured that FFRDCs can perform all of the work noncompetitively assigned to the FFRDCs better and at less cost than non-FFRDC contractors.

DoD sponsors should use broad agency announcements and competitive solicitations and should permit FFRDCs and non-FFRDC contractors to compete for research requirements to assess the potential for non-FFRDC contractors to perform the work. Numerous studies have confirmed that when service providers are required to compete, they keep their costs down, respond quickly to changing demands, and strive to be responsive to their customers.

Conclusion

The FFRDC mission statements do not identify specific niches in which the FFRDCs have special expertise not possessed in-house or by private sector contractors. DoD sponsors also had not compared the costs of operating the FFRDCs with performing the work using DoD personnel. The lack of competition for most work assigned to the FFRDCs limits DoD ability to know whether other contractors could do the work better or at less cost.

Recommendations for Corrective Action

We recommend that the Director, Defense Research and Engineering, establish procedures for the primary federally funded research and development center sponsors to:

1. Revise mission statements for the federally funded research and development centers to identify specific research areas for which the federally funded research and development centers have unique capabilities and expertise.

2. Prepare justifications for the noncompetitive assignment of projects to the federally funded research and development centers that document:

a. The unique federally funded research and development center capabilities needed to perform the work.

b. The alternatives considered to perform the work and why the alternatives are unable to effectively do the work.

c. The specific charteristics of effectiveness (that is, quantity, timeliness, quality, and customer satisfaction) that justify assignment of the work to the federally funded research and development center and that must be met when performing the project under consideration.

3. Perform cost-comparison studies of federally funded research and development center and DoD in-house personnel costs as part of the comprehensive reviews.

4. Use broad agency announcements and competitive solicitations to assess the potential for non-federally funded research and development center contractors to perform research projects.

Management Comments

The Director, Defense Research and Engineering, comments were not received in time to be considered in preparing the final report. Therefore, we request that the Director, Defense Research and Engineering, comment on the final report.

Finding B. Justification and Analyses of Management Fee Requirements

DoD did not properly determine the management fees to pay to the six nonprofit corporations that operated eight DoD FFRDCs. This condition occurred because program sponsors did not document FFRDC fee needs in sponsoring agreements. Further, contracting officers did not follow established procedures to review annual fee requests and did not perform working capital or other analyses to limit fee requirements to expenses that were ordinary and necessary to FFRDC operations. Also, contracting officers did not consider other alternatives for expenses that could be met through more effective funding arrangements. As a result, DoD FFRDCs received about $43 million of the $46.9 million of management fees for discretionary purposes during FY 1992. Of the $43 million:

o $11.6 million was used for unallowable costs and future needs that were not necessary for the operation of the FFRDCs and should not have been paid; and

o $31.4 million was used for allowable costs and should have been charged against overhead.

Also, the Navy approved an increase in management fee payments to the Center for Naval Analyses during FY 1993 that increased contract costs by about $2.7 million annually but provided no measurable benefits to the Navy.

Background

Definition and Purpose of Management Fees. Management fees are the amounts negotiated that are in addition to all reimbursable costs paid to the nonprofit corporations operating the DoD FFRDCs . The reason for paying fees to contractors that are nonprofit organizations differs from the reason for paying fees to for-profit contractors. Fees paid to nonprofit contractors are considered necessary to provide required operating capital and to cover nonreimbursable expenses that are considered ordinary and necessary to the successful operation of the organization. Fees paid to for-profit contractors are contributions to their profits.

OFPP and FAR Policy Governing Payment of Management Fees. OFPP Letter 84-1 requires that sponsoring agreements with FFRDCs address the payment of management fees. It states:

> Where fees are determined by the sponsor(s) to be appropriate, considerations which shall affect their negotiation should be identified. Such considerations may be, but are not necessarily limited to, weighted guidelines, risks, use of government furnished property and facilities, [and] needs of others as determined appropriate by the sponsor(s).

The OFPP policy is implemented by FAR 35.017-1, "Sponsoring Agreements," which provides that either a sponsoring agreement or the sponsoring agencies policies and procedures must include provisions for the identification of retained earnings (reserves) and the development of a plan for the use and disposition of retained earnings.

DFARS Guidelines Governing Appropriateness of Management Fees. Defense Federal Acquisition Regulation Supplement (DFARS) 215.972, "Modified Weighted Guidelines Method for Nonprofit Organizations," provides guidance for determining whether a management fee is appropriate. DFARS 215.972(b)(1) states that contracting officer considerations of the need for fee should include the FFRDC:

o proportion of retained earnings (as established under generally accepted accounting methods) that relates to DoD contracted effort;

o facilities capital acquisition plans;

o working capital funding as assessed on operating-cycle cash needs;

o contingency funding; and

o provision for funding unreimbursed costs deemed ordinary and necessary to the FFRDC.

If a fee is considered appropriate, the contracting officer computes a fee objective using the weighted guidelines method in DFARS 215.971, "Weighted Guidelines Method," to establish limits on the amounts that can be awarded under the fee for use during negotiations.

Management Fee Payments Made in FY 1992. Sponsors paid management fees of about $46.9 million to six nonprofit corporations that operated eight DoD FFRDCs during FY 1992. Appendix P identifies the management fees paid the six nonprofit corporations during FY 1992. The contractors that operated the remaining two FFRDCs (the Lincoln Laboratory and the Software Engineering Institute) were funded under advanced payment arrangements and did not receive management fees. Through January 1993, CNA was primarily funded with advanced payments but also received a small management fee.

Appropriateness of Management Fees Paid to DoD FFRDCs

We concluded that about $43 million of the $46.9 million of the management fees paid to the six nonprofit corporations during FY 1992 was not correct. Of the $43 million, $11.6 million should not have been paid, and $31.4 million should have been included as overhead. We considered the remaining $3.9 million that was used for facility and equipment needs to be appropriate but believe that such needs should be Government-furnished or direct funded to the maximum extent possible. The uses of the management fees are summarized in Appendix P. Details on the fees that should not have been paid and on the fees that should have been included as overhead are in Appendix Q, Tables Q-1 and Q-2, respectively.

Documenting FFRDC Fee Needs in Sponsoring Agreements

Program sponsors did not adequately document FFRDC fee needs in sponsoring agreements for use by contracting officers in establishing fee requirements. Program sponsors did not state in the sponsoring agreements for six of the eight FFRDCs the requirement for or purpose of management fees as required by OFPP Letter 84-1 and FAR 35.017-1. The sponsoring agreements for CNA and for the MITRE C^3I Division stated that these nonprofit corporations were authorized to receive management fees but did not explain why the specific fee elements were necessary.

Sponsors should document in sponsoring agreements why management fee payments to FFRDCs are considered necessary.

Reviewing Annual Fee Requests

Contracting officers did not properly establish FFRDC fee needs based on the modified guidelines contained in DFARS 215.972.

Reviewing and Approving Fee Requirements. Contracting officers did not review and authorize payment of individual management fee expense elements or categories. Contracting officers required Project AIR FORCE, Aerospace Corporation, and MITRE C^3I Division to submit annual fee requests. CNA included an annual fee request with its required annual report to the contracting officer on fee use. These nonprofit corporations generally itemized their annual fee requirements in accordance with the five considerations in DFARS 215.972. The contracting officers reviewed the fee requirements and determined that the

total fee requirements were reasonable because they were within the fee objective established using the weighted guidelines method in DFARS 215.971. Once payment of the fee was authorized by the contracting officer, the FFRDCs believed the fees could be used for any purpose involving DoD work.

The Defense Supply Service-Washington (DSS-W) contracting officer did not require IDA, LMI, National Defense Research Institute, and Arroyo Center to submit annual fee requests for their FFRDC contracts. During contract negotiations, the DSS-W contracting officer computed a fee objective or upper limit for the award of management fees using modified weighted guideline methods. The management fees negotiated by the DSS-W contracting officer were justified as reasonable because they were within the limits established by the weighted guidelines. The DSS-W contracting officer established fee rates for the 5-year contracts with these FFRDCs. Once established, the DSS-W contracting officer did not require IDA, LMI, National Defense Research Institute, and Arroyo Center to submit data on how they used their management fees.

Implementation of Previous Recommendation to Justify Fee Needs. Inspector General, DoD, Report No. 90-041, "Contracting Practices of the Institute for Defense Analyses," March 1, 1990, recommended that the DSS-W contracting officer base the management fee for IDA on need in accordance with DFARS guidance. DSS-W did not properly implement this recommendation. The DSS-W contracting officer only requested IDA to justify its fee needs once. According to a December 13, 1989, request from the DSS-W contracting officer, IDA submitted information on its FY 1990 management fee needs in a January 5, 1990, letter. No other evidence exists that DSS-W requested any additional information to justify subsequent year fee needs. DFARS 215.902, "Policy," requires agencies to develop a fee objective on each negotiated contract action that requires cost analysis.

Including Contract Fee Clause to Require Annual Fee Requests. Contracting officers did not include a contract fee clause that required annual FFRDC fee requests and annual FFRDC reports on actual fee use in any of the FFRDC contracts. Including such a special clause under section H, "Special Contract Requirements," of the contract would better ensure that management fees were properly justified and only used for approved purposes.

Conducting Working Capital Analyses

Contracting officers did not adequately perform working capital analyses to assist in assessing annual FFRDC fee needs. Working capital is the amount by which current assets exceed current liabilities. Working capital is necessary to

provide operational stability so that an organization can meet its obligations as they fall due. For service organizations, such as FFRDCs, an operating cycle is the amount of time needed to collect its accounts receivable.

Operating-Cycle Analysis of Working Capital Needs. Operating-cycle analysis of working capital needs is a useful tool for identifying excess management fee requests by FFRDCs. We computed working capital requirements using the operating-cycle approach for five of the six nonprofit corporations that received management fees during FY 1992. We did not examine the working capital needs of CNA because it was funded under an advance funding pool arrangement instead of through management fees during FY 1992. We determined that Aerospace Corporation, MITRE C^3I Division, and LMI had excess working capital of about $7.1 million, $5.3 million, and $2.5 million, respectively, during FY 1992. The DSS-W contracting officer was not aware of the excess working capital resources available to LMI because DSS-W had not analyzed the LMI working capital. RAND Corporation and IDA did not have excess working capital.

Current Liabilities Overstated in Operating-Cycle Analysis. We believe that the excess working capital at MITRE C^3I Division and Aerospace Corporation was not questioned by Air Force contracting officers because current liabilities included employee leave that would not be paid during the operating cycle. The overstatement of current liabilities reduces the amounts of working capital available to meet routine operating requirements. However, the FFRDCs invoiced and were paid for employee leave costs as earned. The FFRDCs pay employees for leave earned when the leave is taken. Significant amounts of employee leave liabilities were carried over from year to year at the FFRDCs. At the end of FY 1992, the employee leave liability for the seven FFRDCs was $52.3 million. Employee leave liability not expected to be paid in the year should be excluded from current liabilities for purposes of computing working capital needs under the operating-cycle approach. Overall, working capital funding was not a material factor in justifying FFRDC fee requirements.

Considering Fee Alternatives

The stated fee needs of the FFRDCs could have been met through contractual guarantees that did not require the immediate disbursement of funds and through the use of advance funding pool arrangements.

Using Contingent Liability Clauses in FFRDC Contracts to Eliminate Need for Reserves. Using contingent liability clauses eliminates the need for an FFRDC to accumulate reserves because the Government would pay legitimate liabilities should the Government decide to terminate the contract. FAR 49.502(d), "Research and Development," addresses termination provisions applicable to the DoD FFRDC contracts. Each FFRDC contract includes the

clause at FAR 52.249-5, "Termination for Convenience of the Government (Educational and Other Nonprofit Institutions)" or at FAR 52.249-6, "Termination (Cost-Reimbursement)." These clauses provide for the Government's payment of all legitimate liabilities arising out of the Government's desire to terminate a contract and would negate any need for an FFRDC to accumulate capital reserves for contingent liabilities that may arise.

Although the FFRDCs stated that fees were needed to fund contingent liabilities, their financial statements did not disclose management fees accumulated for such purposes. Management fee requests from IDA and from the RAND Corporation stated that they needed capital reserves to fund potential employee severance liabilities in the event of contract terminations. IDA also stated that reserves were necessary to fund long-term equipment and lease commitments in the event of contract terminations.

Advance Funding Arrangements Could Reduce Fee Needs. The use of advance funding arrangements could avoid Government payment of unnecessary interest costs by making funds available to the FFRDCs only in the amounts needed to fund anticipated expenses. FAR part 32, "Contract Financing," provides for the advance payment of money by the Government to a prime contractor before, in anticipation of, and for the purpose of complete performance under one or more contracts. FAR 32.403, "Applicability," states that advance payments may be considered useful and appropriate for contracts for experimental, research, or development work with educational or research institutions; contracts solely for the management and operation of Government-owned plants; or contracts for acquisition at cost of facilities for Government ownership.

Management fees used to pay interest expenses of about $397,400 during FY 1992 (Table Q-1) for short-term working capital needs may have been avoided if advance funding arrangements were used. Also, at the end of FY 1992, Aerospace Corporation, MITRE C^3I Division, and LMI had accumulated about $14.9 million of capital in excess of working capital requirements. Maintaining excess funds at the FFRDCs also results in the Government incurring additional interest costs.

Use of Fees for Discretionary Purposes

During FY 1992, FFRDCs used $43 million of $46.9 million of management fees for discretionary purposes. We compared these expenses with the allowable cost criteria contained in FAR part 31, "Contract Cost Principals and Procedures," and Office of Management and Budget Circular A-122, "Cost Principals for Nonprofit Corporations." Of the $43 million:

o $5 million was for unallowable costs that were not necessary to FFRDC operations, and $6.6 million was undistributed or not necessary for current year expenses, for a total of $11.6 million that should not have been paid, and

o $31.4 million was for allowable expenses that should have been charged to overhead.

The FFRDCs used the remaining $3.9 million of fees for facility and equipment costs.

Unallowable Costs Not Necessary to FFRDC Operations. About $5 million was spent for unallowable items such as interest, dependent scholarships, contributions, relocation and travel, and miscellaneous unspecified expenses. A schedule of the unallowable costs reimbursed from management fees by the six nonprofit corporations is in Table Q-1. No justifications or analyses supported benefits derived from paying these costs or supported negative impacts if the costs were not incurred by the FFRDCs. Contracting officers allowed the costs to be paid from management fees based on the statements by the FFRDCs that the costs were ordinary and necessary to operations.

Interest Expenses. Table 2 identifies the interest costs that the nonprofit corporations stated were charged against management fees during FY 1992.

Table 2. Interest Costs Charged to Management Fees During FY 1992

Nonprofit Corporations	Amount
RAND Corporation	$ *
Aerospace Corporation	*
IDA	*
LMI	*
Total	$397,400

RAND Corporation incurred $ * , or * percent, of interest costs charged to management fees during FY 1992. RAND Corporation officials stated that the interest costs resulted from Government payment delays that reduced RAND Corporation's cash flow and its ability to finance daily operational needs. We determined that the average time from incurrence of cost to receipt of payment was about 45 days for RAND Corporation. A $950,000 mortgage loan that RAND Corporation made to its president in 1990 at favorable interest rates also reduced the availability of working capital. Two of the remaining three FFRDCs that charged interest costs to management fee experienced greater delays in receiving payment but had significantly less interest cost. IDA and LMI had operating cycles of 73 days and 60 days,

*Proprietary data removed.

respectively, and incurred $ * and $ * of interest costs respectively. The interest costs could be reduced by faster Government payment or could be avoided through the use of advance funding arrangements.

Dependent Scholarship Expenses. During FY 1992, CNA used $ * to fund a tuition program for dependents of its employees. CNA was the only DoD FFRDC that used management fee for such expenses. The practice of paying dependent tuition is a carryover from CNA's prior university affiliations. Under Office of Management and Budget Circular A-21, "Cost Principals for Educational Institutions," dependent tuition is allowable as an employee benefit when granted in accordance with university policies. However, since 1983, CNA has been subject to the cost principles of Office of Management and Budget Circular A-122, which does not allow the costs of employee dependent tuition programs. Also, FAR 31.205-44, "Training and Education Costs," states that costs of college plans for employee dependents are unallowable.

Contributions. During FY 1992, IDA, Aerospace Corporation, and MITRE C^3I Division made contributions of $ * , $ * , and $ * , respectively, to universities as direct grants or matching employee contributions. Universities receiving direct grants from MITRE C^3I Division included Harvard University, Massachusetts Institute of Technology, and Northeastern University. FAR 31.205-8, "Contributions or Donations," specifically states that contributions or donations are unallowable.

Congress has recently expressed concerns about FFRDC contributions. House Conference Report 103-701, "The National Defense Authorization Act For Fiscal Year 1995," August 12, 1994, states:

> Congress has learned that some centers [FFRDCs] have contributed to charities, local governments, universities, and individuals. Such contributions are not usually reimbursed under federal contracts, and the conferees believe, not appropriate for sole source institutions to pay from fees. Consequently the conferees agree to a provision that would . . . prohibit certain contributions to charities . . . .

Undistributed Management Fees. None of the FFRDCs financial statements specifically disclosed the extent of undistributed management fees. According to data provided by the six nonprofit contractors, we identified about $6.5 million in undistributed fees from their FFRDC contracts during FY 1992. Because contracting officials should consider the extent of all retained earnings, all retained earnings derived from DoD funding should be specifically accounted for and disclosed in FFRDC financial statements, and current year fee needs should be adjusted accordingly.

Allowable Costs That Should Have Been Charged to Overhead. The $31.4 million of allowable costs that should have been charged to overhead

*Proprietary data removed.

(Table Q-2) included $4.7 million that the FFRDCs claimed as ordinary and necessary expenses to their operations and $26.7 million for corporate-sponsored research.

Costs Claimed as Ordinary and Necessary. The $4.7 million of allowable costs reimbursed from management fees that the FFRDCs claimed as ordinary and necessary expenses included project cost overruns, meeting expenses, executive salaries, and retiree health insurance and could have been included as overhead. All costs that are allowable under established cost criteria should be charged directly against the contract. We concluded that the use of management fees to pay allowable expenses is inconsistent with the intent of using fees for necessary nonreimbursable expenses. Lacking adequate justification of the fee need, such inconsistences further undermine oversight efforts aimed at ensuring effective cost control. None of these costs were specifically justified on the basis of being excess to allowable cost limits. The FFRDCs charged these costs to fee to avoid Government oversight and potential criticisms that might arise because of the incurrence of questionable or excessive costs. For example, in explanatory information on fee computations, the RAND Corporation stated that:

> Fee income is used for the following general purposes: . . . Non-reimbursable expenses, including: . . . routine business expenses that may be reimbursable under FAR, but that are not claimed for reasons of appearance of conflict of interest or to maintain the integrity of RAND and its FFRDCs; and . . . non-routine, elective expenditures that are not covered by FAR, but in the judgment of RAND management are necessary and essential to the operation of the organization.

In the "Need For Fee Determination-The MITRE Corporation Contract F19628-89-C-0001 - Option III (FY92)," the Air Force contracting officer approved the use of management fee for allowable expenses on the basis of tradition and the MITRE desire to avoid potential criticism. The contracting officer's analysis stated:

> Expenses of administration include primarily meeting expenses such as MITRE site dinners, which are official functions, but not direct contract charges, award dinners and holiday parties. These meeting expenses are generally accounted for by other corporations as part of overhead and treated as an indirect cost. MITRE has traditionally accumulated meeting expenses as a fee expenditure in order to avoid any potential criticism of this expense.

Aerospace Corporation had a long-standing practice of using the management fee to pay part of its president's salary and benefits. During FY 1992, Aerospace Corporation charged executive salaries and benefits totaling $ * to management fees.

Corporate-Sponsored Research. FAR 31.001, "Definitions," states that independent research and development is neither sponsored by a grant nor

*Proprietary data removed.

required in the performance of the contract, and includes basic research, applied research, development, and system and other concept formulation studies. FAR 31.205-18, "Independent Research and Development and Bid and Proposal Costs," states that costs for independent research and development are allowable if the contractor negotiates the costs in advance. All prime contractors and subcontractors who receive $7 million or more from Government agencies are required to negotiate the amount in advance. Contractors are not required to negotiate the amount in advance if the amount is less than $7 million. However, these costs are only allowable as indirect expenses on contracts to the extent that they are reasonable and allocable.

FFRDC corporate-sponsored research was independent research and development. The Director of Contracted Support Management, Air Force Electronic Systems Division, stated that ". . . MITRE sponsored research . . . is an IR&D [independent research and development] account which is a standard part of overhead for most companies . . ." IDA, RAND Corporation, CNA, Aerospace Corporation, and MITRE C^3I Division reported using $26.7 million of their management fees for corporate-sponsored research during FY 1992. RAND Corporation, CNA, Aerospace Corporation and MITRE C^3I Division also funded independent research and development from direct charges to the FFRDC contracts during FY 1992. LMI did not report any of its management fees for corporate-sponsored research.

The level of corporate-sponsored research performed by each FFRDC was discretionary. Aerospace Corporation reported reducing its corporate-sponsored research by 20 percent because of the ceiling imposed by Congress on DoD FFRDC costs.

Absent any clear justification of the need for management fee funding, we believe that the independent research activities of the FFRDCs should be funded consistently with those of other private-sector organizations under the provisions of FAR 31.205-18 and should be charged against overhead.

Facility and Equipment Costs. We determined that IDA, LMI, RAND Corporation, and MITRE C^3I Division used $3.9 million of their management fees for facility and equipment purchases during FY 1992. Total facility and equipment purchases made by these FFRDCs during FY 1992 was $36.3 million. These FFRDCs had to use management fees for equipment and facility purchases because alternative fund sources, such as depreciation, interest on investments, and other income, were not sufficient.

Management fees for equipment and facilities are allowable as management fees when specifically authorized by the contracting officer. However, we believe that facility and equipment needs that are in direct support of Government-sponsored research should be Government-furnished or should be included as a direct contract cost.

Fee Increase for CNA

Former Fee Arrangements. Until January 1993, CNA received a relatively small amount of fee compared with other FFRDCs (1.44 percent versus 4.25 percent to 6 percent of the total contract costs). CNA received a lesser fee because it also received advance funding from the Navy.

Request for Fee Increase and Approval. In an October 28, 1992, letter to the Office of Naval Research, CNA proposed restructuring its fixed management fee under the existing cost-plus-fixed-fee contract that was awarded September 28, 1990. The CNA proposal was in response to a verbal request from the Office of Naval Research and stated that objectives achievable under the proposal would benefit both the Navy and CNA. The proposal stated that benefits would:

- provide working capital necessary for self-sustaining CNA operation,
- eliminate Navy advance funding of the FFRDC contract,
- reduce Navy contract/administrative workload and risk related to CNA property, equipment and facilities, and
- eliminate the appearance of a "shell corporation".

On January 14, 1993, the Office of Naval Research issued modification P00028 to contract N00014-91-C-0002 with CNA. The modification reflected the CNA new corporate structure, revised the contract statement of work, and revised the management fee structure. The revised fee structure increased the total contract fee from $3.4 million (1.44 percent of cost) to $11.3 million (8 percent of estimated costs over the remaining 32 months of the contract).

The Office of Naval Research contracting officer approved the increased fee on the basis that the Government will ultimately receive:

> a financially stronger and more independent FFRDC similar to other FFRDC's, and . . . a reduction of approximately $4.8 million per month in advance payments, thereby allowing the DoN [Department of the Navy] to pay for completed work rather than prospectively financing that work.

The Office of Naval Research contracting officer stated that a collateral benefit would be "a reduction in the Government's administrative cost because of the reduced time required for monitoring such things as purchases, Government property, advanced payments, and fee usage." The Office of Naval Research contracting officer also stated that the modification would give CNA the ability to perform work for other DoD and civilian agencies of the Federal Government. The contracting officer believed that growth of a new Institute for Public Research Division of CNA would spread overhead costs over a larger base and would result in a decrease in the hourly cost of research time charged to the Navy.

Analysis of CNA Fee Increase. The Navy realized no measurable benefits associated with the increased management fee paid to the CNA. Inspector General, DoD, Report No. 94-012, "Sole-Source Justifications for DoD-Sponsored Federally Funded Research and Development Centers," November 4, 1993, stated that the Navy did not adequately support the need for the sole-source contract awarded to the CNA in September 1990. The Office of Naval Research justification for the increased management fee, effective with the January 1993 modification to the CNA sole-source contract, did not provide any evidence supporting a Navy need for a "financially stronger more independent FFRDC" or accurately document the financial impact of the fee restructuring. CNA will use the increased management fee to diversify its consulting work to non-Navy and non-DoD organizations.

The cost to the Government to maintain a $4.8 million advance payment pool is about $20,000 per month, or $240,000 per year (based on an annual interest rate of 5 percent), and is the savings directly achievable from discontinuing the $4.8 million advance payment pool. The Navy did not estimate or document any reduction in administrative costs. Thus, the administrative savings would be negligible. Against this annual cost of $240,000, the Navy will pay an additional $2.9 million, or a net annual cost increase to the Government of about $2.7 million.

Recommendations for Corrective Action

1. We recommend that the Director, Defense Research and Engineering; the Deputy Under Secretary of Defense (Logistics); the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence); the Army; the Navy; the Air Force; and the Director, Advanced Research Projects Agency, document in federally funded research and development center sponsoring agreements why the federally funded research and development centers need management fees.

2. We recommend that the Service Acquisition Executives and the Director, Advanced Research Projects Agency, establish procedures for contracting officers to:

a. Include a management fee clause in each federally funded research and development center contract that requires federally funded research and development centers to justify management fee needs in accordance with criteria contained in Defense Federal Acquisition Regulation Supplement 215.972, "Modified Weighted Guidelines Method for Nonprofit Organizations." Management fees should be justified on all contract actions requiring cost analysis and in no case less than annually. The annual fee requests should include:

(1) A description of each fee expense.

(2) A statement why the fee is not chargeable under existing cost guidelines.

(3) An explanation of the benefits of incurring each fee expense to both the federally funded research and development center and the sponsor.

(4) An annual report on the actual use of prior year fee awards.

b. Determine whether prior year fees were used in accordance with approved fee requests and reduce authorized fees for unexpended balances.

c. Perform an annual operating cycle analysis to determine federally funded research and development center management fee needs.

d. Assess alternatives to the award of fees, such as advance funding arrangements, contractual guarantees for contingencies, providing Government facilities or equipment, or others, and use alternatives when more economical.

Management Comments

The Director, Defense Research and Engineering; the Deputy Under Secretary of Defense (Logistics); the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence); the Army; the Navy; the Air Force; and the Director, Advanced Research Projects Agency, comments were not received in time to be considered in preparing the final report. Therefore, we request all addressees comment on the final report.

Finding C. Conflicts of Interest Issues

Contracting officers did not sufficiently inquire into FFRDC activities to ensure that conflicts of interest did not exist.

o Contracting officers did not include required certifications in contracts and were not aware of FFRDC financial affiliations.

o The DSS-W contracting officer did not include a conflict of interest clause in four FFRDC contracts.

o The Navy's payment of incorporation fees to CNA, Incorporated was incorrect.

o The Advanced Research Projects Agency used an IDA employee, under an Intergovernmental Personnel Act (IPA) appointment, to provide the oversight of the Software Engineering Institute.

o IDA, the MITRE C^3I Division, and the Lincoln Laboratory FFRDCs may have hired four individuals only to qualify them for IPA appointments requested by DoD organizations.

These conditions were caused by insufficient guidance regarding the areas that contracting officers for the FFRDCs should review for conflicts of interest, by an assumption that FFRDCs operated by universities and nonprofit corporations reduced the potential for conflicts of interest, and by the belief that project sponsors would identify potential conflicts of interest. Also, the Navy did not adequately support its reasons for not competing for a new management agent. Further, contracting officers were not involved in monitoring or approving IPA appointments. As a result, DoD has inadequate assurance that conflicts of interest are avoided or identified.

Background

Definitions and Applicability. FAR subpart 9.5, "Organizational and Consultant Conflicts of Interest," prescribes responsibilities, general rules, and procedures for contracting officers to follow in identifying, evaluating, and resolving organizational conflicts of interest. FAR 9.501, "Definitions," states that an organizational conflict of interest means that, because of other activities or relationships with other persons, a person is unable or potentially unable to render impartial assistance or advice to the Government, or a person's objectivity in performing the contract work is or might be otherwise impaired,

or a person has an unfair competitive advantage. FAR 9.502, "Applicability," states that organizational conflicts of interest are more likely to occur in contracts involving:

- o management support services,
- o consultant or professional services,
- o contractor performance of or assistance in technical evaluations, or
- o systems engineering and technical direction work performed by a contractor that does not have overall contractual responsibility for development or production.

All the DoD FFRDCs perform services that fall within these four categories.

Certification Requirements. FAR 9.507, "Solicitation Provisions and Contract Clause," requires contracting officers to include provisions that require contractors to submit certifications on marketing consultants used and on advisory and assistance services contracts. A contract solicitation may require either provision, both provisions, or no provision.

Appendix R contains additional details on contracting officer responsibilities and certification requirements over conflicts of interest.

Restrictions Concerning Trustees. The trustees or directors of the universities and nonprofit corporations operating the DoD FFRDCs are legally responsible for appointing key management officials, approving operating policies and programs, and overseeing the organizations' financial management. Section 8107 of Public Law 102-172, "FY 1992 Appropriations Act," prohibits the obligation or expenditure of funds for an FFRDC if a member of its Board of Directors or Trustees simultaneously serves on the Board of Directors or Trustees of a profit-making company under contract to the DoD unless the FFRDC has a DoD-approved conflict of interest policy for its members.

Policies Concerning IPA Assignments. The Intergovernmental Personnel Act (IPA), as amended, which is codified in 5 U.S.C. 3371-3375, authorizes the temporary assignment of personnel between the Federal Government and state or local governments, institutions of higher education, Indian tribal governments, and other eligible organizations. IPA assignments are intended to facilitate the movement of employees for short periods when the movement can serve a sound public purpose. These assignments should be for purposes that are of mutual concern and benefit to the Federal agency and the non-Federal participant. Federal employees may serve with eligible non-Federal organizations for limited periods up to 2 years without loss of employee rights and benefits. A single assignment may not exceed 4 years. Employees of state and local governments, institutions of higher education, and other eligible organizations may serve in Federal agencies for similar periods. The Office of

Personnel Management considered FFRDCs to be eligible organizations for IPA assignments to DoD positions. FFRDCs were in the category of "other eligible organizations." The Office of Personnel Management certified the eligibility of FFRDC employees before they began an IPA assignment with a Federal agency.

Contracting Officer Inquiries Into FFRDC Activities

We requested the contracting officers for the 10 DoD FFRDCs to identify actions they had taken to ensure that organizational conflicts of interest do not exist with the projects performed by the FFRDCs and their consultants and subcontractors. The contracting officers provided the following information.

Contracting Officer Oversight. All of the contracting officers relied on other specialists and officials, to include contracting officer's technical representatives and sponsoring program offices, to report potential conflicts of interest. None of the contracting officers had required the FFRDCs to file the marketing consultant or advisory and assistance services certifications required by FAR 9.507. Several contracting officers did note that their FFRDC contracts pre-dated the FAR 9.507 certification requirements and stated they would include the FAR certification requirements in subsequent contracts. Only the contract with the CNA properly contained an organizational conflict of interest clause that required the contractor to certify that no conflicts existed and that the contracting officer would be notified immediately if a conflict occurred. The contract further provided that, if CNA failed to notify the contracting officer of a known conflict of interest before award or failed to provide notification of a subsequent conflict of interest, the Navy could terminate the contract.

Conflict of interest provisions similar to those in the contract for the CNA, but also requiring the reporting of any use of marketing consultants, should be included in all FFRDC contracts.

Awareness of FFRDC Financial Affiliations. Contracting officers were not aware of the financial affiliations of the FFRDCs, the FFRDC trustees, or the FFRDC employees.

Conflicts of Interest Provisions in FFRDC Contracts. The contracts for 6 of the 10 FFRDCs contained organizational conflicts of interest provisions. The contracts that did not include conflict of interest provisions were for IDA, LMI, National Defense Research Institute, and Arroyo Center. These contracts were awarded by DSS-W. According to DSS-W officials, conflict of interest provisions were not included in the FFRDC contracts because no improprieties regarding actual or potential conflicts of interest for any of the FFRDCs had been brought to the attention of DSS-W. The DSS-W official stated that

appropriate action would be taken if a potential conflict of interest is identified by a project sponsor or by other means, but DSS-W would not initiate actions to identify potential conflicts of interest.

We believe that DSS-W should include the conflict of interest provisions in the FFRDC contracts before a conflict of interest situation is identified.

Insufficiency of FFRDC Conflict of Interest Guidance

Trustee Affiliations and Conflict of Interest Policies. Section 8107 of Public Law 102-172 requires that, before allowing individuals to simultaneously serve on the Board of Trustees of both profit and nonprofit companies, the FFRDC must have DoD-approved conflict of interest policies for its board members. Each FFRDC implemented policies that required board members to fully disclose their affiliations. We determined that all the universities and nonprofit corporations that operate DoD FFRDCs have conflict of interest policies that were approved by their primary DoD sponsor and that all board members had disclosed their affiliations.

Contracting officers for 9 of 10 FFRDCs agreed that individuals simultaneously serving on the board of an FFRDC and the board of a major defense contractor could pose a conflict of interest, but were personally not aware of the affiliations of the FFRDC trustees.

Our review of meetings of Boards of Trustees and discussions with FFRDC officials showed that, in at least six instances, individual trustees recused themselves from meetings because of possible conflicts. Our review of trustee affiliations disclosed 28 instances of individuals who were simultaneously serving on the boards of FFRDCs and major defense contractors. Trustees also had significant affiliations with other nonprofit organizations, including other FFRDCs, that had major contracts with the DoD.

Procuring contracting officers should be aware of trustee affiliations for their respective FFRDCs.

FFRDC Employees and Financial Disclosures. FFRDC employees were not required to adhere to the same stringent standards as Federal employees. Federal employees who are involved in procurement matters or who handle classified or contractor proprietary data are required to submit annual financial disclosures. LMI, CNA, National Defense Research Institute, Arroyo Center, and Project AIR FORCE FFRDCs only required their senior research and administrative managers to submit annual disclosures of their financial interests and affiliations. The Aerospace Corporation required its employees to file

disclosures every 2 years or whenever a change in the individual's interests or relationships occurred that would make the change appropriate to disclose. MITRE C^3I Division required employees to file a disclosure of outside employment only if they were working on a source selection as a non-Government adviser. The other FFRDCs did not require their employees to file disclosure statements. Consultants were required to disclose their relationships or interests before or during engagements at 9 of 10 FFRDCs.

FFRDC Susceptibility to Conflict of Interest Situations. FFRDCs are susceptible to individual conflict of interest situations. For example, one FFRDC, during 1991 and 1992, dismissed four employees for conflict of interest violations. The nature of the violations ranged from misusing company proprietary information to engaging in improper business activities. We also identified three separate instances in which another FFRDC's employees were denied outside employment because the employment would conflict with their FFRDC duties.

Because FFRDC personnel have access to Government and proprietary data of other contractors and because FFRDC employees may not file disclosures when changes in their interests and relationships occur, the DoD sponsors should require contractually that all FFRDCs establish procedures for employees in executive and research positions to file annual disclosures of personal financial interests.

Disclosing Investments or Contributions. None of the nonprofit corporations and universities operating FFRDCs were required to disclose their investments in or contributions from non-Government organizations, and none of the sponsors had placed restrictions on outside investments of the nonprofit corporations and universities. The contracting officers for the Aerospace Corporation, the National Defense Research Institute, the Arroyo Center, IDA, and LMI believed that a requirement to have the FFRDCs file such disclosures annually would be useful in determining whether potential conflicts of interest exist. The contracting officer for MITRE stated that MITRE invested its cash reserves in U.S. Treasury securities and that a conflict of interest did not appear to exist. Contracting officers for Project AIR FORCE, National Defense Research Institute, Arroyo Center, IDA, and LMI did not know how their FFRDCs invested their cash reserves. All of the contracting officers believed that certain investments could result in a conflict of interest. The contracting officers for 9 of 10 FFRDCs stated that no statute, regulation, or policy required a contracting activity to enforce disclosure of financial investments of contractors.

We believe that the DoD sponsors should include a provision in the FFRDC contracts that requires the FFRDCs to report their investments in and contributions from non-Government organizations.

Need for Contracting Officer Reviews

Contracting officers did not believe conflicts of interest needed emphasis and believed project sponsors would identify potential conflicts of interest.

Contracting Officer Views of Potential Conflicts of Interest. Contracting officers viewed the potential for conflicts of interest involving the FFRDCs to be minimal because the FFRDCs were prohibited from competing for work, and because FFRDCs were operated by nonprofit corporations and universities chartered to serve the public interest. Contracting officers at the Army Communications-Electronics Command, the Air Force Electronics Systems Center, and the Air Force Space and Missile Systems Center stated that the requirement for advisory and assistance services certifications did not apply because FFRDCs did not provide advisory and assistance services.

All FFRDCs should be required to communicate to the contracting officer any use of marketing consultants and actual or potential conflicts of interest involving their operations.

Project Sponsor Review for Conflicts of Interest. We asked sponsors for the projects reviewed how they ensured that the FFRDCs had not performed work that might pose a conflict of interest in the performance of their projects. The sponsors for:

- 27 projects relied on the contracting officers and FFRDC oversight committees to identify potential conflicts of interest.

- 84 projects believed that the experience of the sponsors and their close interaction with the FFRDC would surface any potential conflicts of interest.

- 108 projects stated that they did not review the work for conflicts of interest.

- 24 projects stated that additional guidance would be useful.

These responses indicate that sponsors are often not giving adequate attention to potential conflicts of interest in projects to FFRDCs.

Contracting officers should require sponsoring program officials to review all FFRDC procurement actions in accordance with FAR subpart 9.5 and to notify the contracting officer immediately of any potential conflicts identified.

Navy Role in CNA Independence and Objectivity

We examined the independence of FFRDCs from their sponsors by asking the contracting officers whether the sponsors approved or had any involvement in selecting trustees or directors for the FFRDC. The contracting officers for each FFRDC stated that the trustees for the nonprofit corporations operating DoD FFRDCs were self-governing boards that approved new trustees and appointed the senior FFRDC executives. Also, the minutes of Board of Trustee meetings for the seven FFRDCs that were reviewed did not disclose any instance in which FFRDC sponsors requested the appointment of a particular person as trustee.

Incorporation of CNA, Incorporated. The Navy's payment of incorporation fees for CNA, Incorporated, was incorrect. In 1986, the Hudson Institute was awarded a sole-source contract to manage CNA. As a result of Navy concerns about the quality of the Hudson Institute Research Program and potential funding cuts, in 1988 the Navy began considering alternatives to the Hudson Institute's management of CNA. A November 30, 1989, memorandum for the Deputy Chief of Naval Operations (Navy Program Planning) stated that the Navy had no legal reasons not to take Hudson Institute out of the loop and establish CNA as an independent entity. A December 1989 point paper identified three options for CNA management:

- Continue the existing sole-source contract with Hudson Institute.
- Contract competitively for a new managing agent.
- Incorporate CNA and award a self-management contract.

The Navy decided to phase out the existing Hudson Institute contract, incorporate a new operating agent or establish a new corporation to operate CNA, and establish a new contract with CNA.

In a May 22, 1990, letter to the Chief of Naval Operations, the Hudson Institute notified the Navy of its intention to terminate its management of CNA. The Navy, instead of competing for a new management agent, proceeded to award a noncompetitive contract to CNA, Incorporated, a new nonprofit corporation formed to operate CNA.

CNA, Incorporated, was approved on September 12, 1990, as a nonstock, nonprofit company by the Virginia State Corporation Commission. On September 28, 1990, the Navy awarded a sole-source contract (N00014-91-C-0002) to CNA, Incorporated, for 5 years at a total estimated cost of $240 million. Section H.9.d. of the contract stated that any cost up to a maximum of $50,000 for the organization of the new CNA corporation incurred on or after September 1, 1990, was allowable. The Navy reimbursed CNA for payments of about $24,625 that were made to two law firms for legal fees related to the organization and registration of CNA, Incorporated.

Justification For Paying CNA Incorporation Fees

Office of Management and Budget Circular A-122 provides that organizational costs, such as incorporation fees, broker fees, or fees to attorneys in connection with the establishment or reorganization of an organization, are unallowable except with the prior approval of the awarding agency. The Navy never adequately documented its reasons for not pursuing competition for a new management agent. Also, as discussed in Inspector General, DoD, Report No. 94-012, the continued need for the CNA FFRDC was not supported. FAR 31.205-27, "Organizational Costs," states that the costs of organizing or reorganizing the corporate structure of a business, to include incorporation fees and the related fees of attorneys are unallowable.

These costs should not have been reimbursed and the Office of Naval Research contracting officer should recover the payments from CNA.

Uses of IPA Assignments

The Advanced Research Projects Agency used an IDA employee under an IPA appointment to oversee the Software Engineering Institute. Also, IDA, MITRE C^3I Division, and the Lincoln Laboratory may have hired four individuals only to qualify them for IPA appointments requested by DoD sponsors.

FFRDC Employee Overseeing Another FFRDC. We determined that an employee of one DoD FFRDC on an IPA assignment was responsible for oversight of another DoD FFRDC. From January 1, 1990, to June 30, 1993, the program manager for the Software Engineering Institute program at the Advanced Research Projects Agency was an employee of IDA. The person had been the Director, Computer and Software Engineering Division, at IDA. At the Advanced Research Projects Agency, he was responsible for planning and reviewing the technical content of the Software Engineering Institute program to assess the value of the research, recommend new projects, and cancel or consolidate individual tasks as necessary. DoD reimbursed IDA for the person's salary and for the IDA share of employee benefits equivalent to 45 percent of salary. IDA paid the person's salary and withheld deductions for taxes and benefits. The person filed a disqualification statement stating that, while assigned to the Advanced Research Projects Agency, he would not take any action on behalf of the Government that might have an impact on IDA.

Meeting IPA Eligibility Requirements. To be eligible for an IPA assignment, an individual of the qualifying organization must be a permanent career employee for at least 90 days before entering into a mobility assignment agreement with a Federal agency. As shown in Table 3, of the 28 IPA appointments, 4 were based on the individuals meeting minimum eligibility requirements.

Table 3. Employees Meeting Minimum IPA Eligibility Requirements

Employing FFRDC	FFRDC Start Date	IPA Request Date	IPA Appointment Start Date
IDA	August 21, 1989	July 5, 1989	December 1, 1989
IDA	May 28, 1991	October 9, 1991	December 1, 1991
MITRE	July 29, 1991	October 28, 1991	November 26, 1991
Lincoln Lab	September 1, 1989	Unknown	December 1, 1989

The FFRDCs may have hired these individuals only to qualify them for IPA appointments. For example, on July 5, 1989, the Director, Advanced Research Projects Agency (at that time, the Defense Advanced Research Projects Agency), requested an IPA appointment for a former IDA employee who, at the time, was a part-time employee for IDA. After coordinating with the Office of Personnel Management, the Washington Headquarters Services denied the request on August 11, 1989, because the individual was not a permanent, full-time employee of IDA. On August 21, 1989, the individual was hired by IDA as a full-time employee, and on November 9, 1989, the individual was approved for an IPA appointment to a position in the Office of the Secretary of Defense.

Assignment of FFRDC Personnel to Defense Staff and Defense Agencies. At the Washington Headquarters Services Personnel Office, we identified 28 personnel from DoD and non-DoD FFRDCs assigned during FY 1992 to the Office of the Secretary of Defense and the Defense agencies serviced by Washington Headquarters Services. The specific Office of the Secretary of Defense staff elements and Defense agencies and the number of FFRDC personnel assigned to them are shown in Table 4.

Table 4. IPA Assignment to Defense Staff and Defense Agencies

IPA Assignment Agency	Number Assigned
Director of Tactical Systems, Office of the Under Secretary of Defense for Acquisition and Technology	1
Office of the Director, Defense Research and Engineering	4
Office of the Under Secretary of Defense (Personnel and Readiness)	1
Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)	1
Office of the Assistant Secretary of Defense (Atomic Energy)	5
Office of the Assistant Secretary of Defense (International Security Policy)	1
Advanced Research Projects Agency	11
Ballistic Missile Defense Organization	4

Performing Inherently Governmental Functions. We believe that the temporary assignment of an employee of one FFRDC to oversee the performance of another FFRDC was inappropriate. The FFRDC employee was performing an inherently governmental function that should have been performed by a regular DoD employee. FAR 35.017-2, "Establishing or Changing an FFRDC," requires sponsors to ensure that sufficient Government expertise is available to adequately and objectively evaluate work performed by the FFRDC. The Advanced Research Projects Agency could not provide evidence that it tried to fill the program manager position through regular recruitment methods. Also, the temporary assignment of an IDA employee to this Advanced Research Projects Agency position gives the appearance of a conflict of interest because the Software Engineering Institute was established as an FFRDC based on a 1983 report prepared by IDA, industry, and academia participants. The Advanced Research Projects Agency became the DoD sponsor for the Software Engineering Institute in 1989.

The DoD assignments that we reviewed of the 28 IPA appointments to Office of the Secretary of Defense staff elements and Defense agencies involved varying degrees of management oversight of important DoD programs and functions. Allowing FFRDC employee involvement in these programs could result in subsequent conflicts of interest when the employees return to their FFRDCs.

Approval of Intergovernmental Personnel Act Appointments. We asked the DoD contracting officers for the DoD FFRDCs whether they were aware that employees from their FFRDCs were brought into the Government under IPA appointments and whether they reviewed and approved appointment requests. All of the contracting officers stated that they had not been involved in approval of requests. The contracting officer for IDA stated that no clear guidance

existed on this issue but believed there should be guidance. Contracting officers for MITRE C^3I Division, Aerospace Corporation, and CNA believed that they should be informed of IPA appointments of personnel from their FFRDCs.

To preclude abuse of IPA appointments within DoD, the Director, Defense Research and Engineering, should issue guidance to the DoD Components that excludes DoD FFRDC and non-DoD FFRDC personnel from being assigned to DoD positions that have oversight or management responsibilities for an FFRDC. Also, contracting officers should be informed of IPA appointments of DoD FFRDC personnel and their positions upon return to the FFRDC.

Including IPA Salary Payments Under FFRDC Funding Ceilings. Reimbursements of salary and benefits of FFRDC personnel on IPA assignments with DoD organizations should be included under the funding ceilings imposed by Congress on the FFRDCs. The terms of the IPA agreements between the FFRDCs and DoD provided that the FFRDCs would continue to pay the salaries and benefits of FFRDC employees on IPA assignments to DoD. Funding ceilings mandated by Congress have restricted DoD funding for FFRDCs in FYs 1994 and 1995 to $1.3 billion each year. The Director, Defense Research and Engineering, who is responsible for establishing the funding ceiling for each DoD FFRDC and monitoring execution by each FFRDC sponsor, had not issued guidance in the DoD FFRDC Management Plan for the FFRDC sponsors to include the IPA salary reimbursements under the funding ceilings.

Conclusion

DoD contracting officers believed that the potential for conflicts of interest at DoD FFRDCs was minimal and, therefore, did not place emphasis on the identification of conflicts of interest. The contracting officers primarily relied on project sponsors and the FFRDCs to identify and report or avoid potential conflicts of interest even though existing guidance and contract provisions did not require the project sponsors or the FFRDCs to do so. FFRDC trustees and employees were involved in financial affiliations and personnel arrangements under IPA assignments that could result in conflicts of interest violations. Unless contracting officers or their designated representatives maintain awareness of potential conflicts of interest situations at the FFRDCs and review and monitor potential occurrences, DoD will have no adequate assurance that conflicts of interest are being avoided or identified.

Recommendations for Corrective Action

1. We recommend that the Service Acquisition Executives and the Director, Advanced Research Projects Agency, require contracting officers to:

a. Obtain certifications from the sponsor of each project that the statement of work has been reviewed for potential and actual conflicts of interest. Issue instructions for sponsoring program officials to assist in such evaluations and require sponsoring program officials to notify the contracting officer immediately of any conflict identified.

b. Include in all federally funded research and development center contracts conflicts of interest clauses that:

(1) Require federally funded research and development centers to file marketing consultant or advisory and assistance services certificates required by Federal Acquisition Regulation 9.507 for each contract and each project assigned to the contracts.

(2) Require federally funded research and development centers to warrant that no conflicts of interest existed before contract award and that the contracting officer will be immediately notified if any conflicts of interest arise after contract award.

(3) Provide for remedies that include possible contract termination if the federally funded research and development center fails to inform the contracting officer of any conflicts of interest.

(4) Require federally funded research and development centers to establish procedures for employees in executive and research positions to file annual disclosures of personal financial interests.

(5) Require federally funded research and development centers to report their investments in and contributions from non-Government organizations.

c. Review Intergovernmental Personnel Act appointments for all DoD federally funded research and development center personnel for potential conflicts of interest.

2. We recommend that the Assistant Secretary of the Navy (Research, Development, and Acquisition) direct the Office of Naval Research contracting officer to obtain reimbursement from the Center for Naval Analyses for incorporation fees paid by the Navy.

3. We recommend that the Director, Defense Research and Engineering, revise the DoD Federally Funded Research and Development Center Management Plan to:

a. Exclude federally funded research and development center personnel from assignment to DoD positions under Intergovernmental Personnel Act appointments that involve oversight or management responsibilities over a federally funded research and development center.

b. Include all payments to federally funded research and development center employees on Intergovernmental Personnel Act assignments to DoD under the funding ceilings imposed by Congress.

Management Comments

The Service Acquisition Executives and the Director, Advanced Research Projects Agency, comments were not received in time to be considered in preparing the final report. Therefore, we request that the Service Acquisition Executives and the Director, Advanced Research Projects Agency, comment on the final report.

Part III - Additional Information

Appendix A. Missions of DoD Federally Funded Research and Development Centers

Studies and Analyses Centers

Institute for Defense Analyses, Alexandria, Virginia.* Sponsored by the Office of the Secretary of Defense. Performs studies and analyses for the Office of the Secretary of Defense, the Joint Staff, the Unified Commands, and the Defense agencies in the areas of defense systems, science and technology, strategy and forces, resource analysis, advanced computing and information processing, training, simulation, acquisition process, and the industrial base.

National Defense Research Institute, RAND Corporation, Santa Monica, California. Sponsored by the Office of the Secretary of Defense. Conducts a wide range of research and analyses for the Office of the Secretary of the Defense, the Joint Staff, the Unified Commands, and Defense agencies in the areas of international security and economic policy; threat assessment; defense strategy and force employment options; applied science and technology; information processing systems; systems acquisition; readiness and support systems; and active-duty and reserve manpower, personnel, and training.

Logistics Management Institute, Bethesda, Maryland. Sponsored by the Office of the Secretary of Defense. Conducts research, studies, and analyses for the Office of the Secretary of Defense, the Military Departments, the Defense agencies, the Joint Staff, and the Unified Commands in its mission areas: materiel management, acquisition, installations, environment, operational logistics, international programs, force management, and information science.

Arroyo Center, RAND Corporation, Santa Monica, California. Sponsored by the Army. Conducts a wide range of research, studies, and analyses for the Army in the areas of strategy, force design, force operations, readiness and support infrastructure, applied science and technology, manpower and training, threat assessment, and Army doctrine.

*The Institute for Defense Analyses performs studies and analysis, systems engineering, and research and development work for its respective sponsors.

Center for Naval Analyses, Alexandria, Virginia. Sponsored by the Navy. Performs work for the Navy and the Marine Corps encompassing tactical development and evaluation, operational testing of new systems, assessment of current capabilities, logistics and readiness, manpower and training, space and electronic warfare, cost and operational effectiveness analysis, assessment of advanced technology, force planning, and strategic implications of political-military developments. Of the center's analysts, 20 percent are assigned to fleet and field commands on 2-year tours.

Project AIR FORCE, RAND Corporation, Santa Monica, California. Sponsored by the Air Force. Conducts an integrated program of research and analyses for the Air Force on the preferred means for developing and employing aerospace power, including studies of national security threats and strategies; Air Force missions, capabilities, and organization; strategic and tactical force operations; and technology, support, and resource management.

Systems Engineering/Integration Centers

MITRE C^3I Division, Bedford, Massachusetts, and McLean, Virginia. Sponsored by the Office of the Secretary of Defense. Performs general systems engineering and integration for the DoD command, control, communications, and intelligence community. Provides direct support through program definition, specification of technical requirements, system integration, analysis of design and design compromises, hardware and software review, and test and evaluation. Appraises contractor's technical performance.

Institute for Defense Analyses. Sponsored by the Office of the Secretary of Defense. Provides test and evaluation support for the Director, Operational Test and Evaluation. Provides analyses of test plans, operational assessments and test results for weapons and other systems, including new and proposed equipment of all types. Addresses a range of considerations to include the relationship of effectiveness to technical characteristics, required support, and deployability.

Aerospace Corporation, Los Angeles, California. Sponsored by the Air Force. Performs general systems engineering and integration for DoD space systems. Provides planning, systems definition and technical specification support, analyzes design and design compromises, interoperability, manufacturing and quality control, and assists with test and evaluation, launch support, flight tests, and orbital operations. Appraises the technical performance of contractors.

Research and Development Laboratories

Institute for Defense Analyses, Bowie, Maryland; Princeton, New Jersey; and La Jolla, California. Sponsored by the Office of the Secretary of Defense. Conducts fundamental research for the National Security Agency in cryptology, including the creation and analysis of complex encipherment algorithms, as well as in speech and signal analyses and in various technologies associated with supercomputing and parallel processing, including new algorithms and applications.

Lincoln Laboratory, Lexington, Massachusetts. Sponsored by the Air Force. Carries out a program of research and development for DoD emphasizing advanced electronics. Mission areas include strategic offense and defense, surface and air surveillance, high-energy laser beam control technology, military satellite communications, space surveillance, and advanced electronics technology. Program activities extend from fundamental investigations through design, development, and field test of prototype systems using new technologies.

Software Engineering Institute, Pittsburgh, Pennsylvania. Sponsored by the Advanced Research Projects Agency. Charged with bringing technology to bear for DoD on rapid improvement of the quality of operational software in mission-critical computer resource systems, modernizing software engineering techniques and methods, and establishing standards of excellence in software engineering practice.

Appendix B. Criteria For Using DoD Federally Funded Research and Development Centers

Purpose of FFRDCs. FFRDCs are intended to bridge gaps between the Government and industry to compensate for Government difficulties and limitations in recruiting technical talent. FFRDCs evolved to satisfy the need for professional services not available in the Government and to support Government needs when production contractors could not because of potential conflicts of interest. The FFRDCs were established to analyze problems, design special equipment, or engineer important weapon or space systems.

OFPP Letter 84-1, as implemented by FAR 35.017, provides guidance on the establishment, use, periodic review, and termination of FFRDCs. The OFPP policy provides that:

> Agencies will rely, to the extent practical, on existing in-house and contractor sources for satisfying their special research or development needs consistent with established procedures under The Economy Act of 1932 (31 U.S.C. 1535), other statutory authority or procurement/assistance regulations. A thorough assessment of existing alternative sources for meeting these needs is especially important prior to establishing an FFRDC.

Controlling the Use of FFRDCs. To ensure that Government sponsors use FFRDCs appropriately, the OFPP policy requires sponsors to provide:

> A delineation of the purpose for which the FFRDC is being brought into being along with a description of its mission, general scope of effort envisioned to be performed, and the role the FFRDC is to have in accomplishment of the sponsoring agency's mission. This delineation must . . . be sufficiently descriptive so that work to be performed by the FFRDC can be determined to be within the purpose, mission and general scope of effort for which the FFRDC was established and differentiated from work which should be performed by a non-FFRDC. This delineation shall constitute the base against which changes in an existing FFRDC's purpose, mission or general scope of effort will be measured.

Assignment of Work to the FFRDCs. In assigning work to an existing FFRDC, the OFPP policy provides that:

> The sponsor, or primary sponsor in the case of multiple sponsorship, will ensure that all work it places with its FFRDC(s) is within the purpose, mission, and general scope of effort of the FFRDC . . . . This includes work a sponsoring agency agrees to accept from a non-sponsoring Federal agency under the provisions of The Economy Act of 1932 (31 U.S.C. 1535) or other statutory authority.

The Deputy Secretary of Defense supplemented the OFPP and FAR guidance on September 6, 1991, by issuing a memorandum that stated:

> The Secretaries of the Military Departments and the heads of other DoD components shall ensure that, consistent with applicable law, when research and development work is proposed to be performed to meet the needs of their respective components: (a) the work shall be performed within DoD whenever performance within DoD can meet the need as effectively as performance outside DoD; and (b) when work cannot be performed as effectively within DoD as outside DoD, it shall be performed by contractors (other than FFRDCs) consistent with applicable laws, including laws relating to competition, unless performance by such contractors cannot meet the need as effectively as can performance by an FFRDC.

The Deputy Secretary's memorandum establishes in-house sources, contractors, and FFRDCs as the clear order of preference for research and development work. This preference has existed since the issuance of the "Report to the President on Government Contracting for Research and Development," April 30, 1962, prepared by a committee under the chairmanship of the Director of the Bureau of the Budget (now Office of Management and Budget).

Restatement of Policies in the DoD FFRDC Management Plan. On August 14, 1992, the Director, Defense Research and Engineering, issued a memorandum, "Implementation of the Federally Funded Research and Development Center Management Plan" (the Plan). The Plan requires the primary sponsor to:

o develop a program for the work of the FFRDC in the next fiscal year within the established ceiling,

o recommend any adjustment to that ceiling that appears to be necessary or desirable,

o review regularly the cost and value of goods and services provided by the FFRDC, and

o conduct a comprehensive review of the use and the need for the FFRDC before renewal of the contract or sponsorship agreement.

The Plan also reemphasized that DoD sponsors shall ensure that proposed research work shall be performed in DoD to the extent practical, and when work cannot be performed as effectively in DoD as outside DoD, the work shall be performed by contractors (other than FFRDCs) consistent with applicable laws, including laws relating to competition, unless performance by such contractors cannot meet the need as effectively as performance by an FFRDC.

Work Assignment Criteria

Regulations for Assignment of Work. All of the sponsors had guidance that established procedures for assigning work to the FFRDCs. The guidance was published in regulations, instructions, contracts, sponsoring agreements, and other miscellaneous memorandums.

Sponsors of the MITRE C^3I Division, the Aerospace Corporation, and the Arroyo Center included specific criteria for determining the appropriateness of assigning work to the FFRDCs in:

o Electronic Systems Center Regulation 80-1, "Utilization of MITRE Support," February 21, 1991;

o Army Communication-Electronics Command Regulation 70-64, "Utilization of MITRE Support," October 1, 1990;

o Space and Missile Systems Center Regulation 800-8, "The Aerospace Corporation Technical Support," March 13, 1992; and

o Army Regulation 5-21, "Army Policies and Responsibilities for the Arroyo Center," August 22, 1986.

The criteria for assigning work to MITRE C^3I Division and to Aerospace Corporation were similar and included need for extensive background information, access to Air Force planning data, need for outstanding specialists in specific fields, need for diversified skills, continuity of effort, and quick response.

Criteria for assigning work to the Arroyo Center included need for unique expertise, long-term analysis, access to proprietary and restricted information, objectivity, and quick response. The regulations did not specify how to apply these criteria or that the justifications for assigning the work be documented.

Other sponsor guidance on the appropriateness of work for the MITRE C^3I Division, the Aerospace Corporation, the Arroyo Center, and the other FFRDCs addressed various levels of management review, to include senior policy council reviews, but contained only broad references that work should be appropriate or should be within the FFRDC mission statement and meet the requirements of OFPP Letter 84-1 and FAR 35.017.

In January 1993, the Navy issued procedures for the development and execution of its CNA research program. The revised procedures, which are stated in modification P00028 to the current CNA contract (N00014-91-C-0002), require that work fall within a mission and generic product area, that the work address major Navy issues, and that the work meet the DoD criteria contained in the DoD Management Plan for work to be performed by an FFRDC.

Management of FFRDC Work

Type of Contracts for FFRDCs. The FFRDC contracts are cost reimbursable, level-of-effort, task order contracts awarded for 5 years.

Task Order Processing. Sponsors and FFRDC management informally discussed and agreed on the taskings assigned to the FFRDCs, the statements of work, and the estimated cost to perform the work. Sponsors also determined that taskings were consistent with the broad mission statements, and that in-house personnel and non-FFRDC contractors were not available or could not perform the work as effectively.

Appendix C. Summary of Projects Reviewed

	Projects Reviewed[1] Number	Projects Reviewed[1] Cost (millions)	Total Active FY 1991 Projects	Total FY 1991 Funding (millions)
IDA	27	$ 14.0	215	$ 109.8
NDRI	25	9.9	138	25.2
LMI	27	5.3	100	25.8
Arroyo Center	25	8.3	77	25.7
CNA	22[2]	6.2	135	52.2
Project AIR FORCE	20[3]	6.1	60	24.8
MITRE C^3I Division	18	50.0	304	421.4
Aerospace Corporation	17	104.7	197	395.1
Lincoln Laboratory	24[4]	72.7	122	375.9
Software Engineering Institute	24[5]	16.6	41	26.0
Total	229	$293.8	1,389	$1,481.9

[1]Of the 229 projects or taskings reviewed, 216, valued at $288.1 million, were active during FY 1991. The remaining 13 projects, valued at $5.7 million, were completed during FY 1990.
[2]Includes 10 projects during FY 1990 for $3.1 million
[3]Includes 1 project during FY 1990 for $0.4 million
[4]Includes 1 project during FY 1990 for $1.9 million
[5]Includes 1 project during FY 1990 for $0.3 million

Appendix D. Summary Evaluation of Projects Reviewed

The following tables summarize sponsor responses to questionnaires and our evaluation of those responses for 229 projects reviewed. Appendixes E through N provide details on the individual projects reviewed for each FFRDC.

Table D-1. Were Alternatives to FFRDC Use Considered For Each Project?

FFRDC	Unknown	No	Yes	Total Projects
IDA	0	4	23	27
NDRI	0	5	20	25
LMI	0	2	25	27
Arroyo Center	1	8	16	25
CNA	1	6	15	22
Project AIR FORCE	0	0	20	20
MITRE C^3I Division	0	2	16	18
Aerospace Corporation	0	2	15	17
Lincoln Laboratory	0	1	23	24
Software Engineering Institute	0	4	20	24
Total	2	34	193	229

Table D-2. Reason(s) for Selecting FFRDC?

FFRDC	Notes 1	2	3	4	5	6	7	8	9	10	Unknown
IDA	27	3	7	6	9	2	0	0	11	0	0
NDRI	22	6	7	7	6	2	0	5	6	1	0
LMI	24	12	5	8	6	5	0	0	12	0	0
Arroyo Center	15	2	1	2	2	3	6	5	10	0	1
CNA	16	4	3	7	6	2	1	0	11	0	1
Project AIR FORCE	1	1	20	0	1	0	0	0	2	0	0
MITRE C^3I Division	14	3	0	6	6	1	1	0	3	0	0
Aerospace Corporation	16	4	2	7	5	1	0	0	4	0	0
Lincoln Laboratory	24	1	5	5	1	2	0	0	3	5	0
Software Engineering Institute	22	5	0	5	3	4	0	1	8	0	0
Total	181	41	50	53	45	22	7	11	70	6	2

See notes at end of appendix.

Table D-3. Was Rationale For Using the FFRDC Convincing?

FFRDC	Yes	No	Notes 11	12	13	14	15	16
IDA	0	27	27	3	23	14	11	0
NDRI	1	24	22	6	22	10	8	1
LMI	0	27	24	12	24	10	13	0
Arroyo Center	0	25	22	2	25	4	10	0
CNA	0	22	17	4	20	11	13	0
Project AIR FORCE	0	20	19	0	20	1	2	0
MITRE C^3I Division	0	18	15	3	17	10	4	0
Aerospace Corporation	0	17	16	4	15	8	5	0
Lincoln Laboratory	5	19	19	1	16	5	3	5
Software Engineering Institute	0	24	22	5	24	8	12	0
Total	6	223	203	40	206	81	81	6

Reasons:

1. The FFRDC had unique expertise/prior knowledge/corporate knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
3. The FFRDC was considered more cost- or operationally effective than in-house and contractor resources because the FFRDC had related experience or special models.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.
5. The FFRDC could access Government classified and contractor proprietary information.
6. The sponsor could not meet the deadline if the project was awarded competitively.
7. Research generated by the FFRDC.
8. Availability of FFRDC funds.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.
10. The FFRDC's proposal was better than other commercial contractors' proposals.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractors capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.
16. While FFRDCs are not permitted to compete with non-FFRDC concerns, an evaluation panel of experts determined the FFRDC was the most effective source to do the work.

Appendix E. Institute for Defense Analyses Project Details

IDA Review Number	Project Title	Sponsor
1	National Defense Stockpile Analyses	Assistant Secretary of Defense (Production and Logistics)
2	Industrial Operations Analysis	Joint Staff (J-4)
3	Study of the Impact of New Technology on Future Weapon System Support Requirements	Director, Defense Research and Engineering (Research and Advanced Technology)
4	Designing an Experiment to Determine the Relative Value of Simulator Time and Operating Tempo	Under Secretary of Defense (Personnel and Readiness)
5	Concurrent Engineering Handbook	Assistant Secretary of Defense (Production and Logistics)
6	Financial Justification for Waivers to the Ada Language Use Requirement	Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
7	Information Science and Technology Study Group	Advanced Research Projects Agency
8	Defense Modeling and Simulation	Director, Defense Research and Engineering (Research and Advanced Technology)
9	Effect of Lessons Learned from Desert Shield/Desert Storm on System Acquisition Plans	Director, Defense Research and Engineering (Tactical Warfare Programs)
10	Operational Testing and Evaluation of Strategic Missiles	Joint Staff
11	Resource Analysis for Test and Evaluation	Deputy Director, Defense Research and Engineering (Test and Evaluation)
12	Integration Frameworks for Industrial Networking	Assistant Secretary of Defense (Production and Logistics)
13	Military Manpower Issues	Under Secretary of Defense (Personnel and Readiness)
14	Usage Rates for Alternative Individual Chemical Protection	Assistant to the Secretary of Defense for Atomic Energy (Chemical Matters) and Program Manager for Clothing and Individual Equipment, Army
15	A Cost-Effectiveness Analysis of Non-Nuclear Attack Submarines	Assistant Secretary of Defense (Program Analysis and Evaluation) (General Purpose Programs-Naval Forces)
16	Global Command, Control, and Communications Assessment	Defense Information Systems Agency (C2 Planning Division) and Joint Staff (J-6)
17	Strategic Systems Costs	Assistant Secretary of Defense (Program Analysis and Evaluation)
18	Antisubmarine Warfare Capability Assessment	Assistant Secretary of Defense (Program Analysis and Evaluation)
19	Computer-Aided Acquisition and Logistics Support Human System Components Integration	Assistant Secretary of Defense (Production and Logistics)
20	Critical Technologies Analyses	Director, Defense Research and Engineering (Research and Advanced Technology)
21	Estimating National Defense Program Costs for Egypt	Assistant Secretary of Defense (Program Analysis and Evaluation)
22	Net Assessment of New Weapons Technology	Director Net Assessment

IDA Review Number	Project Title	Sponsor
23	Enhancing DoD Scientific and Technical Information Program: Roles and Missions for Defense Technical Information Center	Defense Technical Information Center
24	Standardized Rate Structures for Pricing Telecommunications	Defense Information Systems Agency
25	Live Fire Test and Evaluation Program	Director, Live Fire Testing
26	Technical Risks and Technical Opportunities Related to the Cost and Operational Effectiveness of Selected Military Systems	Assistant Secretary of Defense (Program Analysis and Evaluation)
27	Review and Analysis in Support of the DoD Report on "Conduct of the Persian Gulf Conflict"	Under Secretary of Defense for Policy

Sponsor Response to Questionnaire For IDA Projects Reviewed

(See reasons and rationale at end of the appendix.)

IDA Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	Inventory requirements analysis	Yes	1,5,9	No	11,13,14,15
2	Mobilization planning	No	1,5,9	No	11,13,14,15
3	Civil engineering, cost analysis, or estimating support	Yes	1,3	No	11
4	Develop experiments and measures of effectiveness	Yes	1,9	No	11,13,15
5	Develop engineering handbooks	Yes	1,2,9	No	11,12,13,15
6	Cost analysis	No	1,9	No	11,13,15
7	Assess advanced information, science and technology	Yes	1,4,5,9	No	11,13,14,15
8	Modeling and simulation and organizational analysis	Yes	1,4	No	11,13,14
9	After action review and requirements analyses	Yes	1	No	11
10	Operational tests and evaluations	Yes	1,3	No	11,13
11	Cost analysis	Yes	1,4	No	11,13,14
12	Acquisition and logistics support study	No	1,3,9	No	11,13,15
13	Manpower analysis	Yes	1,6,9	No	11,13,15
14	Requirements and cost analysis	Yes	1,3,6,9	No	11,13,15
15	Cost analysis	Yes	1,3	No	11,13

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Sponsor Response to Questionnaire For IDA Projects Reviewed (cont'd)

IDA Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
16	Planning, programming, and budgeting analysis	Yes	1,5	No	11,14
17	Cost analysis	Yes	1,5,9	No	11,13,14,15
18	Weapons capability analysis	Yes	1,2,4	No	11,12,13,14
19	Logistics support study	Yes	1	No	11,13
20	Develop and coordinate military critical technologies	Yes	1,5	No	11,13,14
21	Cost analysis	Yes	1,5	No	11,13,14
22	Technology analysis	Yes	1,2,9	No	11,12,13,15
23	Organizational study	Yes	1,3,4	No	11,13,14
24	Cost analysis	Yes	1,5	No	11,14
25	Weapons capability analysis	Yes	1,4	No	11,13,14
26	Cost and effectiveness analysis	Yes	1,5	No	11,13,14
27	After action review and policy analysis	No	1,3	No	11,13

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Reasons:

1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
3. The FFRDC was considered more cost or operationally effective than in-house and contractor resources because the FFRDC had related experience or special models.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.
5. The FFRDC could access Government classified and contractor proprietary information.
6. The sponsor could not meet the deadline if the project was awarded competitively.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.
10. The FFRDC proposal was better than other commercial contractors' proposals.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.

Appendix F. National Defense Research Institute Project Details

NDRI Review Number	Project Title	Sponsor
1	Comparison of Future Surveillance System Alternatives	Advanced Research Projects Agency
2	DoD Electromagnetic Spectrum Management	Deputy Assistant Secretary of Defense (Strategic and Tactical C3)
3	RAND Advanced Simulation Language	Advanced Research Projects Agency
4	Simulation Network Applications	Advanced Research Projects Agency
5	Data Needs for Manpower Policy Analysis	Under Secretary of Defense (Personnel and Readiness)
6	Improving Methods for Strategic Analysis: Evolutionary Development of the RAND Strategy Assessment	Under Secretary of Defense for Policy
7	Alternative Sources for the Acquisition of Tritium	Director, Defense Research and Engineering
8	Setting Military Pay	Under Secretary of Defense (Personnel and Readiness)
9	Key Issues for U.S. Security Policy in Eastern Europe	Under Secretary of Defense for Policy
10	Active Map Technology: Key to Next Generation C4I	Advanced Research Projects Agency
11	Evaluation of the Civilian Health and Medical Program of the Uniformed Services Reform Initiative Demonstration Project	Assistant Secretary of Defense (Health Affairs)
12	Evaluation of the Catchment Area Management Demonstration Project	Assistant Secretary of Defense (Health Affairs)
13	Evaluation of the Implementation of the Staff Development Program in DoD Dependents' Schools (Germany)	Under Secretary of Defense (Personnel and Readiness)
14	Work Incentive Demonstration	Under Secretary of Defense (Personnel and Readiness)
15	Enlisted Retention Models	Under Secretary of Defense (Personnel and Readiness)
16	OSD Energy Policy: Conservation and Environmental Coordination	Assistant Secretary of Defense (Production and Logistics)
17	Study of DoD Future Distribution Systems	Assistant Secretary of Defense (Production and Logistics)
18	Improving the Regional Security Environment in the Persian Gulf	Under Secretary of Defense for Policy
19	Evaluation of Bonuses and Other Factors Affecting Unit Manning	Assistant Secretary of Defense (Reserve Affairs)

NDRI Review Number	Project Title	Sponsor
20	Child Care for Military Family	Under Secretary of Defense (Personnel and Readiness)
21	Transition to a Smaller Military: Implications for Procurement Spending and the U.S Defense Industrial Base	Director, Defense Research and Engineering
22	Military Science and Advanced Simulation	Advanced Research Projects Agency
23	Support for the RAND Strategy Assessment System	Under Secretary of Defense for Policy
24	Vocational Education and Technical Training for Military Occupations	Under Secretary of Defense (Personnel and Readiness)
25	Future Conventional Forces	Advanced Research Projects Agency

Sponsor Response to Questionnaire For National Defense Research Institute Projects Reviewed

(See reasons and rationale at end of the appendix.)

NDRI Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	Utilization assessment of unmanned aircraft and satellites	Yes	1,5	No	11,13,14
2	Electromagnetic and spectrum management assessment	Yes	1,4,5	No	11,14
3	Software analysis	Yes	10	Yes	16
4	Requirements and effectiveness analysis	Yes	1,4,5	No	11,13,14
5	Manpower analysis	Yes	1,9	No	11,15
6	Modeling and simulation	Yes	1,2	No	11,12,13
7	Resource analysis	Yes	1	No	11,13
8	Manpower and pay study	Yes	1,3,6,8	No	11,13,15
9	Policy analysis	Yes	2	No	12,13
10	Simulation and modeling and requirements analysis	Yes	1	No	11,13
11	Health care and cost analysis	No	1,4	No	11,13,14
12	Health care and cost analysis	No	1,3,4	No	11,13,14
13	Requirements analysis and training	Yes	1,2,3,9	No	11,12,13,15
14	Manpower analysis	No	1,9	No	11,13,15
15	Manpower analysis	Yes	1,8	No	11,13
16	Energy conservation and construction planning and budgeting	Yes	1,2,3,4,9	No	11,12,13,14,15

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Sponsor Response to Questionnaire For National Defense Research Institute Projects Reviewed (cont'd)

NDRI Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
17	Requirements analysis	No	8,9	No	13,15
18	Security and political assessment	Yes	1,2,5	No	11,12,13,14
19	Manpower and pay analysis	Yes	1,9	No	11,13,15
20	Requirements study	Yes	1,8	No	11,13
21	Planning and budgeting analysis	Yes	1,2,3	No	11,12,13
22	Modeling and simulation study	Yes	1,3,4,5	No	11,13,14
23	Modeling and simulation study	Yes	1,3	No	11,13
24	Manpower training and cost analysis	Yes	1,4,6,8	No	11,13,14,15
25	Future Army forces concept study	No	1,5	No	11,13,14

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Reasons:

1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
3. The FFRDC was considered more cost or operationally effective than in-house and contractor resources because the FFRDC had related experience or special models.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.
5. The FFRDC could access Government classified and contractor proprietary information.
6. The sponsor could not meet the deadline if the project was awarded competitively.
8. Availability of FFRDC funds.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.
10. The FFRDC proposal was better than other commercial contractors' proposals.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.
16. While FFRDCs are not permitted to compete with non-FFRDC concerns, an evaluation panel of experts determined the FFRDC was the most effective source to do the work.

Appendix G. Logistics Management Institute Project Details

LMI Review Number	Project Title	Sponsor
1	Accrual Funding for Health Care for Military Dependents and Retirees	Principal Deputy Comptroller of the Department of Defense
2	Family Housing Requirements	Naval Facilities Engineering Command
3	Estimating Depot Maintenance Resources Consistent With Changing Force Structure Policies	Assistant Secretary of Defense (Program Analysis and Evaluation)
4	Flexible Readiness Management	Under Secretary of Defense (Personnel and Readiness)
5	Fiscal Analysis of Base Reuse Alternatives	Under Secretary of Defense (Personnel and Readiness) (Office of Economic Adjustment)
6	Improving the Air Force Secondary Items Requirements Process	Deputy Chief of Staff of the Air Force for Logistics
7	Call-up of Reserve Component Units for Desert Shield-Desert Storm	Assistant Secretary of Defense (Force Management and Personnel)
8	Force Drawdown Planning	Assistant Secretary of Defense (Force Management and Personnel)
9	Rationalizing Training Base Resources with Force Structure Changes	Assistant Secretary of Defense (Force Management and Personnel)
10	Managing Medical Technology Modernization	Army Medical Research and Development Command
11	Civil Agency Support for Operation Desert Shield	Federal Emergency Management Agency
12	Evaluating Property Management in Health and Human Services Components	Department of Health and Human Services
13	Evaluating Acquisition and Assistance Management at Health and Human Services Components	Department of Health and Human Services
14	Army Strategic Logistics	Assistant Secretary of Defense (Production and Logistics)
15	Energy Resource Management	Assistant Secretary of Defense (Production and Logistics)
16	Reserve Components Health Care Professionals Bonus Test	Assistant Secretary of Defense (Health Affairs)
17	International Program Support	Deputy Under Secretary of Defense (International Programs)
18	Policy and Strategies Implications of the Persian Gulf War: A Logistics Perspective	Principal Deputy Under Secretary of Defense (Strategy and Resources)
19	Force Structure Data Links to Cost Models	Under Secretary of Defense (Personnel and Readiness)
20	Manpower/Personnel Force Reduction Issues	Assistant Secretary of the Army (Manpower and Reserve Affairs)
21	Strategic Mobility Issues for the 90's	Deputy Chief of Staff of the Army for Logistics
22	Inventory Reduction Plan Support	Assistant Secretary of Defense (Production and Logistics)
23	Integrated Logistics Management Improvement Program	Coast Guard
24	The Baseline Condition of Coast Guard Housing	Coast Guard
25	Determination of Coast Guard Housing Needs	Coast Guard
26	Advanced Concept for Technical Manuals	Under Secretary of Defense (Personnel and Readiness)
27	Aircraft Battle Damage Assessment and Repair Technology Research and Development Plan	Naval Air Systems Command

Sponsor Response to Questionnaire For LMI Projects Reviewed

(See reasons and rationale at end of the appendix.)

LMI Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	Health care and cost estimating	Yes	1,2,3,6,9	No	11,12,13,15
2	Housing requirements analysis	Yes	1,2,4	No	11,12,13,14
3	Maintenance requirements analysis	No	1,2	No	11,12,13
4	Concept development and resource readiness measurement	Yes	1,3,4,5,9	No	11,13,14,15
5	Military base cost and financial analysis	Yes	1,3,9	No	11,13,15
6	Spare parts requirements analysis	No	1	No	11,13
7	Reserve manpower use study	Yes	1,3,4,5,9	No	11,13,14,15
8	Manpower program, planning, and budgeting assessment	Yes	1,9	No	11,13,15
9	Manpower training assessment	Yes	1,9	No	11,13,15
10	Healthcare and requirements analysis	Yes	1,9	No	11,13,15
11	Effectiveness study-Desert Storm support	Yes	1,5,6,9	No	11,13,14,15
12	Property management system requirements and data analysis	Yes	1,2,4	No	11,12,13,14
13	Health care planning assessment	Yes	1,2,4	No	11,12,13,14
14	Logistics requirements analysis	Yes	1,4,5	No	11,14
15	Energy conservation cost analysis	Yes	1,2,3	No	11,12,13
16	Manpower pay analysis	Yes	1,4	No	11,13,14
17	Manufacturing technology coordination and planning support	Yes	1	No	11,13
18	Desert Storm/Shield logistics requirements analysis	Yes	1,6	No	11,13,15
19	Manpower cost analysis	Yes	1,9	No	11,13,15
20	Manpower requirements analysis	Yes	1,2,9	No	11,12,13,15
21	Logistics mobility requirements assessment	Yes	2,4,5	No	12,13,14
22	Inventory requirements database analysis	Yes	1,2,5	No	11,12,14
23	Logistics information system support needs assessment	Yes	1,2	No	11,12
24	Housing requirements assessment	Yes	2,6,9	No	12,13,15
25	Housing requirements assessment	Yes	2,6,9	No	12,13,15
26	Electronic publishing and informations management technology	Yes	1	No	11,13
27	Aircraft maintenance and repair planning	Yes	1	No	11,13

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Sponsor Response to Questionnaire For LMI Projects Reviewed (cont'd)

Reasons:

1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
3. The FFRDC was considered more cost or operationally effective than in-house and contractor resources because the FFRDC had related experience or special models.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.
5. The FFRDC could access Government classified and contractor proprietary information.
6. The sponsor could not meet the deadline if the project was awarded competitively.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.

Appendix H. Arroyo Center Project Details

Arroyo Review Number	Project Title	Sponsor
1	Soviet Military Power and Security Policy in Europe	Deputy Chief of Staff of the Army for Intelligence
2	U.S. Army's Noncombat Missions: Closing the Gap Between the Existing Resources and Required Resources	Assistant Secretary of the Army (Manpower and Reserve Affairs)
3	U.S. Army and the Third World Mission: Improving Training and Assistance	Deputy Chief of Staff of the Army for Operations and Plans
4	Army Futures, Army Budgets	Chief of Staff of the Army
5	Visions for the Future Army	Assistant Secretary of the Army (Manpower and Reserve Affairs)
6	Warrior Preparation Center Research	Deputy Chief of Staff for Operations, U.S. Army Europe
7	Future Combat Development Issues	Army Training and Doctrine Command
8	Army Future Paths	Arroyo Center Policy Committee/Chief of Staff of the Army
9	Total Army Costs	Arroyo Center Policy Committee/Chief of Staff of the Army
10	Arroyo Center Cost Analysis Activity	Director of Management for the Army Staff
11	Anticipating Combat Ammunition Consumption and User Assisted Translation of Operational Plans	Army Combined Arms Support Command
12	Army Force Structures, Resources, and Transition to War	Army Forces Command
13	Improving Higher-Echelon Command and Control	Army Combined Arms Command
14	Future Individual Training Strategies	Assistant Deputy Chief of Staff for Training (Plans), Army Training and Doctrine Command
15	Strategic Personnel Planning	Deputy Chief of Staff of the Army for Personnel
16	Integrating Ammunition Requirements and Production Schedules to Increase Combat Capability	Army Armament, Munitions, and Chemical Command
17	Advanced Technology Systems and the Army's Force Development Strategies	Assistant Deputy Chief of Staff of the Army for Operations and Plans (Force Development)
18	Impact of New Technologies on the Future Army	Assistant Secretary of the Army (Research, Development, and Acquisition)
19	Environmental Issues for the U.S. Army in Germany	Chief of Staff of the Army
20	PHASE I/PHASE II-Operation Desert Shield Deployment Study	Chief of Staff of the Army
21	Soldiers' Families: Tracking Their Well-Being During Peacetime and War	Army Community and Family Support Center
22	TOW Missile Performance Study	Army Training and Doctrine Command
23	Special Forces Combat Development Issues	Director J-5 (Plans, Policy, Doctrine, Simulation, and Analysis), Special Operations Command
24	Enhancing the Aviation Logistics System: The Depot Perspective	Naval Supply Systems Command, Naval Air Systems Command, and Navy Aviation Supply Office
25	Phase One Engineering Team Support	Ballistic Missile Defense Organization

Sponsor Response to Questionnaire For Arroyo Center Projects Reviewed

Arroyo Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	Intelligence assessment of Soviet intentions for future wars in Europe	Unknown	Unknown	No	11,13
2	Support requirements assessment	Yes	1	No	11,13
3	Training assessment	No	7,9	No	11,13
4	Force structure planning and budgeting	No	7	No	11,13
5	Force structure planning	Yes	1	No	11,13
6	Training analysis and modeling	Yes	8,9	No	13,15
7	Force structuring and warfighting analysis	Yes	1,9	No	11,13,15
8	Force structure planning and budgeting	No	7	No	11,13
9	Develop Army cost model for future cost and budget analysis	No	7	No	11,13
10	Cost analysis coordination	No	7	No	11,13
11	Ammunition requirements analysis	Yes	1	No	11,13
12	Force structure planning assessment	Yes	3,8	No	13
13	Training program assessment	Yes	2	No	12,13
14	Training program assessment	Yes	1	No	11,13
15	Manpower analysis and support planning	No	1	No	11,13
16	Ammunition requirements analysis	Yes	1,5	No	11,13,14
17	Technology assessment and planning, programming, budgeting	Yes	1,9	No	11,13,15
18	Technology assessment and force structuring	Yes	1,5,9	No	11,13,14,15
19	Environmental assessment	No	7	No	11,13
20	After action review and force structuring	Yes	1,6,8	No	11,13,15
21	Family support needs assessment	No	1,4,8,9	No	11,13,14,15
22	Weapons system analysis	Yes	1,6,9	No	11,13,15
23	Combat planning and force structuring	Yes	1,8,9	No	11,13,15
24	Aviation logistics requirements and effectiveness analysis	Yes	1,2,6,9	No	11,12,13,15
25	Technical analysis and engineering support	Yes	1,4,9	No	11,13,14,15

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Reasons:

1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
3. The FFRDC was considered more cost or operationally effective than in-house and contractor resources because the FFRDC had related experience or special models.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.
5. The FFRDC could access Government classified and contractor proprietary information.

Sponsor Response to Questionnaire For Arroyo Center Projects Reviewed (cont'd)

Reasons: (cont'd)

6. The sponsor could not meet the deadline if the project was awarded competitively.
8. Availability of FFRDC funds.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.
10. The FFRDC proposal was better than other commercial contractors' proposals.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.
16. While FFRDCs are not permitted to compete with non-FFRDC concerns, an evaluation panel of experts determined the FFRDC was the most effective source to do the work.

Appendix I. Center for Naval Analyses Project Details

CNA Review Number	Project Title	Sponsor
1	Battle Group Training and Readiness Linkages	Deputy Chief of Naval Operations (Naval Warfare)
2	Readiness-Based Sparing Development	Director, Materiel Division (OP-41), Deputy Chief of Naval Operations (Logistics)
3	Depot-Level Maintenance and Modernization of Surface Ships	Director, Program Resource Appraisal Division (OP-81) and Director, Surface Warfare Division (OP-32), Office of the Chief of Naval Operations
4	Aviation Support Equipment Allowancing Study	Director, Naval Aviation Maintenance Program (OP-51), Office of the Chief of Naval Operations
5	Alternative Logistics Concepts for Support of Commercial Off-the-Shelf Computers	Assistant Secretary of the Navy (Research, Development, and Acquisition)
6	Civilian Manning of the Combat Logistics Force	Deputy Chief of Naval Operations (Logistics)
7	Logistics Support for War Plans Study (Phase II)	Chief of Naval Operations (Logistics)
8	Cost of Base Operations in Support of Navy Individual Training	Program Resource Appraisal Division, Office of the Chief of Naval Operations
9	Military Pay Comparability Study	Deputy Chief of Naval Operations (Manpower, Personnel, and Training) (OP-01)
10	Continuation of Naval Medical Program Study	Deputy Chief of Naval Operations (Navy Program Planning) (OP-08) and Director of Naval Medicine/Naval Surgeon General (OP-093)
11	Navy Enlisted Accession and Retention Study	Deputy Chief of Naval Operations (Manpower, Personnel and Training)
12	Aviator Training and Inventory Management	Deputy Chief of Staff for Manpower and Reserve Affairs, Marine Corps
13	Marine Corps Enlisted Retention	Deputy Chief of Staff for Manpower and Reserve Affairs, Marine Corps
14	Anti-armor Analysis	Marine Corps Combat Development Command
15	Naval Gun Study	Assistant Chief of Naval Operations for Surface Warfare
16	Future Navy Investments in Science and Technology	Director of Navy Test and Evaluation and Technology Requirements (OP-91), Office of the Chief of Naval Operations
17	Measures of Effectiveness for Operational Testing	Assistant Secretary of the Navy (Research, Development, and Acquisition)
18	Role of Naval Forces in the Third World	Center for Naval Analyses
19	Program Documentation and Reporting Requirements Study	Assistant Secretary of the Navy (Research, Development, and Acquisition)
20	155-mm Lightweight Howitzer Life Cycle Cost Estimate	Marine Corps Research, Development and Acquisition Command
21	Multiple Launch Rocket Life Cycle Cost Estimate	Marine Corps Research, Development and Acquisition Command
22	Maritime Preposition Ships Maintenance Program Analysis	Marine Corps Combat Development Command

Sponsor Response to Questionnaire For CNA Projects Reviewed

CNA Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?[1]	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	Training assessment	No	1,5,9	No	11,13,14,15
2	Spare parts requirements analysis	Yes	1,2	No	11,12,13
3	Maintenance and repair readiness assesssment and cost analysis	Yes	1,9	No	11,13,15
4	Support equipment requirements analysis	Yes	1,3,9	No	11,13,15
5	Requirements and cost analysis of off-the-shelf computer equipment	Yes	1,4,9	No	11,13,14,15
6	Manpower cost comparison	No	1,3,9	No	11,13,15
7	Logistics readiness assessment and program planning	No	1,3,5,9	No	11,13,14,15
8	Manpower training cost assessment	Yes	1,5	No	11,13,14
9	Manpower and pay analysis	Yes	1,9	No	11,13,15
10	Health care planning and manpower analysis	No	1,9	No	11,13,15
11	Manpower analysis	Yes	1,9	No	11,13,15
12	Manpower and training analysis	Yes	1,2,9	No	11,12,13,15
13	Manpower analysis	Yes	2,4,9	No	12,13,14,15
14	Weapons capability and requirements assessment	Yes	1,4,5	No	11,14
15	Weapons capability and cost analysis	Yes[2]	6[2]	No	13,15
16	Technology assessment and cost analysis	No	1,4,5	No	11,13,14
17	Weapons systems capability assessment	Yes	1,4	No	11,13,14
18	Concept study	No	7	No	11,13
19	Paperwork reduction assessment	Unknown	Unknown(6)[2]	No	13,15
20	Life cycle cost estimating	Yes	4	No	13,14
21	Life cycle cost estimating	Yes	2,4	No	12,13,14
22	Maintenance cost analysis	Yes	1,5	No	11,14

[1]Sponsor stated that either in-house or non FFRDC-contractors or both were considered for the work.
[2]According to information from FFRDC.

Reasons:
1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
3. The FFRDC was considered more cost or operationally effective than in-house and contractor resources because the FFRDC had related experience or special models.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.

Sponsor Response to Questionnaire For CNA Projects Reviewed (cont'd)

Reasons: (cont'd)

5. The FFRDC could access Government classified and contractor proprietary information.
6. The sponsor could not meet the deadline if the project was awarded competitively.
7. Research generated by the FFRDC.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.

Appendix J. Project AIR FORCE Project Details

PAF Review Number	Project Title	Sponsor
1	Support to Air University War Game	Air University
2	U.S Policy toward Eastern Europe: Options for a Change Environment	Assistant Chief of Staff of the Air Force (Intelligence)
3	Strategic Choices for the U.S. Air Force in the Budget Environment	Deputy Chief of Staff of the Air Force (Plans and Operations)
4	Protecting U.S. Interests in Southwest Asia	Deputy Chief of Staff of the Air Force (Plans and Operations)
5	Moscow's Alternative Defense, Foreign, and Economic Policies	Assistant Chief of Staff of the Air Force (Intelligence)
6	Soviet Industrial Modernization, Economic Reform, and Military-Economic Sector	Assistant Chief of Staff of the Air Force (Intelligence)
7	Investment Strategies for Future Tactical Air Capabilities	Assistant Secretary of the Air Force (Acquisition)
8	Automated Weaponeering Methodology	Air Force Center for Studies and Analyses
9	Space Support of Terrestrial Operations	Deputy Chief of Staff of the Air Force (Plans and Operations)
10	Cost Analyses of Space-based Operational Concepts	Assistant Secretary of the Air Force (Acquisition)
11	Technological Options for Advanced Conventional Cruise Missiles	Strategic Air Command
12	Effects of Defense Management Review Decisions on Air Force Logistics Management	Air Force Logistics Command
13	Enhancing the Logistics Requirement Estimation Process	Deputy Chief of Staff of the Air Force (Logistics)
14	Enhancing the Design Infrastructures of the Aircraft Industry	Assistant Secretary of the Air Force (Acquisition)
15	A New Framework for the New Requirements Process	Deputy Chief of Staff of the Air Force (Plans and Operations)
16	Balancing in Risks and Rewards in Weapon System Development Projects	Assistant Secretary of the Air Force (Acquisition)
17	Expanding U.S. Air Force Missions	Deputy Chief of Staff of the Air Force (Plans and Operations)
18	Air Bases Vulnerabilities of Potential Adversaries in the Pacific Basin	Assistant Chief of Staff of the Air Force (Intelligence)
19	Alternate Structures for Maintenance	Deputy Chief of Staff of the Air Force (Logistics)
20	Concept Development and Project Formulation: Theater Force Employment	Deputy Chief of Staff of the Air Force (Plans and Operations)

Sponsor Response to Questionnaire For Project AIR FORCE Projects Reviewed

PAF Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	Modeling and simulation	Yes	2,3,9	No	11,13,15
2	Political and economic assessment	Yes	3	No	11,13
3	Cost and budget analysis	Yes	3	No	11,13
4	Military threat assessment	Yes	3	No	11,13
5	Intelligence and economic assessment	Yes	3	No	11,13
6	Intelligence and economic assessment	Yes	3	No	11,13
7	Cost and budget analysis	Yes	3	No	11,13
8	Weapons system analysis	Yes	3	No	11,13
9	Space capability assessment	Yes	3	No	11,13
10	Cost analysis and estimating	Yes	3	No	11,13
11	Weapons system capability assessment	Yes	3,5	No	13,14
12	Logistics assessment	Yes	3	No	11,13
13	Plans, programs and budget support for logistics requirements	Yes	1,3,9	No	11,13,15
14	Manufacturing capabilities assessment	Yes	3	No	11,13
15	Acquisition and requirements assessment	Yes	3	No	11,13
16	Acquisition and requirements assessment	Yes	3	No	11,13
17	Force structuring and planning	Yes	3	No	11,13
18	Operational capabilities assessment	Yes	3	No	11,13
19	Maintenance and cost analysis	Yes	3	No	11,13
20	Force structure planning	Yes	3	No	11,13

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Reasons:

1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
3. The FFRDC was considered more cost or operationally effective than in-house and contractor resources because the FFRDC had related experience or special models.
5. The FFRDC could access Government classified and contractor proprietary information.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
15. Work could have been awarded to a contractor under an exception to full and open competition.

Appendix K. MITRE Command, Control, Communications, and Intelligence Division Project Details

MITRE Review Number	Project Title	Sponsor
1	Offutt Processing and Correlation Center	Air Force Electronic Systems Center
2	E-3 Airborne Warning and Control Center	Air Force Electronic Systems Center
3	Human Systems Division Support	Air Force Electronic Systems Center
4	Electronic Security Command Support	Air Force Electronic Systems Center
5	Communications Network Support (formerly Tactical Integrated Radio Network)	Rome Air Development Center
6	Joint Tactical Information Distribution System	Air Force Electronic Systems Center
7	Caribbean Basin Radar Network	Air Force Electronic Systems Center
8	Air Force Systems Command Software Action Team Support	Air Force Electronic Systems Center
9	Software Technology for Adaptable Reliable Systems	Air Force Electronic Systems Center
10	U.S.Air Forces, Europe Guard	Rome Air Development Center
11	Advanced Surveillance and Tracking Technology	Air Force Electronic Systems Center
12	U.S. North American Defense System Program	Air Force Electronic Systems Center
13	SLAPSHOT	Air Force Electronic Systems Center
14	Ballistic Missile Early Warning System	Air Force Electronic Systems Center
15	Advanced Electronics High Frequency Satellite Communications Terminals	Air Force Electronic Systems Center
16	CROSSCHECK	Air Force Electronic Systems Center
17	Software Quality Prediction from Ada Designs	Rome Air Development Center
18	Army Data Distribution System	Army Communications-Electronics Command

Sponsor Response to Questionnaire For MITRE C^3I Division Projects Reviewed

(See reasons and rationale at end of the appendix.)

MITRE Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	General systems engineering and integration support	Yes	1,4	No	11,13,14
2	General systems engineering and integration support	Yes	1	No	11,13
3	General systems engineering and integration support	Yes	1,2,4,6	No	11,12,13,14,15

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Sponsor Response to Questionnaire For MITRE C^3I Division Projects Reviewed (cont'd)

MITRE Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
4	Systems research and planning support	Yes	1,4,9	No	11,13,14,15
5	Systems research and planning support	Yes	2,5	No	12,14
6	General systems engineering and integration support	Yes	1	No	11,13
7	General systems engineering and integration support	Yes	1,4,5	No	11,13,14
8	Systems research and planning support	Yes	2	No	12,13
9	Systems research and planning support	No	1	No	11,13
10	Systems research and planning support	Yes	1,5	No	11,13,14
11	General systems engineering and integration support	Yes	1,5	No	11,13,14
12	General systems engineering and integration support	Yes	1,4,5	No	11,13,14
13	General systems engineering and integration support	Yes	1,9	No	11,13,15
14	General systems engineering and integration support	Yes	4	No	13,14
15	General systems engineering and integration support	No	1	No	11,13
16	General systems engineering and integration support	Yes	1,9	No	11,13,15
17	Software capability assessment	Yes	7	No	11,13
18	General systems engineering and integration support	Yes	1,5	No	11,13,14

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Reasons:
1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.
5. The FFRDC could access Government classified and contractor proprietary information.
6. The sponsor could not meet the deadline if the project was awarded competitively.
7. Research generated by the FFRDC.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.

Rationale:
11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.

Appendix L. Aerospace Corporation Project Details

Aero Review Number	Project Title	Sponsor
1	Defense Meteorological Satellite Program	Air Force Space and Missile Systems Center
2	Satellite Control Network	Air Force Space and Missile Systems Center
3	Kinetic Energy Anti-Satellite Program	Army Strategic Defense Command
4	Space Test Program	Air Force Space and Missile Systems Center
5	Titan IV Launch Vehicle Systems	Air Force Space and Missile Systems Center
6	Milstar Program	Air Force Space and Missile Systems Center
7	Satellite Communication System	Air Force Space and Missile Systems Center
8	Directed Energy Weapons	Air Force Space and Missile Systems Center
9	Trusted Computer System Guidelines	National Computer Security Center
10	State Delta Verification System Project	National Security Agency
11	Large Structures Technology-Control of Precision Systems	Air Force Phillips Laboratory
12	Satellite on Board Reporting System/Space Systems Survivability	Air Force Space and Missile Systems Center
13	Advanced Space Computer Technology	Air Force Phillips Laboratory
14	Short Range Planning	Air Force Space and Missile Systems Center
15	Defense Modeling and Simulation	Director, Defense Research and Engineering
16	Requirements Analysis	Air Force Space and Missile Systems Center
17	Army Space Command Support	Army Space Command

Sponsor Response to Questionnaire For Aerospace Corporation Projects Reviewed

(See reasons and rationale at end of the appendix.)

Aero Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	General systems engineering and integration support	Yes	1,2,3,6	No	11,12,13,15
2	General systems engineering and integration support	Yes	1	No	11,13
3	General systems engineering and integration support	No	1,9	No	11,13,15
4	General systems engineering and integration support	Yes	1,2,9	No	11,12,13,15
5	General systems engineering and integration support	Yes	1	No	11

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Sponsor Response to Questionnaire For Aerospace Corporation Projects Reviewed (cont'd)

Aero Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
6	General systems engineering and integration support	Yes	1,2,4,5	No	11,12,13,14
7	General systems engineering and integration support	Yes	1,3	No	11,13
8	General systems engineering and integration support	Yes	1,5,9	No	11,13,14,15
9	Develop computer system guidelines	Yes	1	No	11,13
10	Software development and capabilities assessment	No	1	No	11,13
11	Systems study and support	Yes	1,4,9	No	11,13,14,15
12	General systems engineering and integration support	Yes	1,4,5	No	11,13,14
13	Computer technology assessment	Yes	1,4	No	11,13,14
14	General systems engineering and integration support	Yes	1	No	11,13
15	Modeling and simulation planning	Yes	1,4	No	11,13,14
16	General systems engineering and integration support	Yes	1,2,4,5	No	11,12,13,14
17	General systems engineering and integration support	Yes	4,5	No	14

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Reasons:

1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
3. The FFRDC was considered more cost or operationally effective than in-house and contractor resources because the FFRDC had related experience or special models.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.
5. The FFRDC could access Government classified and contractor proprietary information.
6. The sponsor could not meet the deadline if the project was awarded competitively.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.

Appendix M. Lincoln Laboratory Project Details

Lincoln Review Number	Project Title	Sponsor
1	High-Power Laser System	Space and Naval Warfare Systems Command
2	Satellite Tracking	Air Force Space Command
3	Fleet Satellite Communications Extremely High Frequency Package Operations Center Operations	Navy Satellite Operations Center
4	Submillimeter Technology	Army Research Office
5	Speech and Signal Processing Technology (VICTORY Program)	National Security Agency
6	Speech and Signal Processing Technology (Wafer Scale Technology)	National Security Agency
7	Speech and Signal Processing Technology (Speaker ID Technology)	National Security Agency
8	Advanced Modulation Technology	National Security Agency
9	Knowledge Based Systems Analysis and Control-Machine Intelligent Tech Control and Interactive Defense Switched Network Simulator	Defense Communications Engineering Center and Rome Air Development Center
10	Binary Optics	Advanced Research Projects Agency
11	Non-Imaging Infrared Technology Program	Advanced Research Projects Agency
12	Wafer-Scale Systems Technology	Advanced Research Projects Agency
13	Robust Speech Recognition	Advanced Research Projects Agency
14	Guardrail/Common Sensor	Army Communications-Electronics Command
15	Short Wavelength Adaptive Techniques	Air Force Phillips Laboratory
16	Study of Rad-Hard Dielectrics	Chief of Naval Research
17	Neural Networks for Seismic Data	Air Force Phillips Laboratory
18	Neural Nets for Speech Recognition	Advanced Research Projects Agency
19	Ground Based Radar (Experimental)	Army Strategic Defense Command
20	Army Communications Medium Data Rate Program	Program Manager MILSTAR (Army)
21	Radar Surveillance Technology	Chief of Naval Research
22	Charge Coupled Device Technology Transfer	Space and Naval Warfare Systems Command
23	Relocatable Targets	Advanced Research Projects Agency
24	Midcourse Ground Sensor Demonstration	Air Force Space and Missile Systems Center

Sponsor Response to Questionnaire For Lincoln Laboratory Projects Reviewed

Lincoln Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	Laser technology advanced development	Yes	1	No	11,13
2	Radar research and development	Yes	1,9	No	11,13,15
3	Satellite operations support	Yes	1,2,3	No	11,12
4	Electronics research	Yes	1,10	Yes	16
5	Speech automation technology	Yes	1,4	No	11,13,14
6	Speech automation technology	Yes	1	No	11,13
7	Speech automation technology	Yes	1,5,10	Yes	16
8	Electronics research	Yes	1,4	No	11,14
9	Electronic communications	Yes	1	No	11,13
10	Micro-optics technology	Yes	1	No	11,13
11	Infrared technology support	Yes	1,3,6,9	No	11,13,15
12	Electronics technology	Yes	1	No	11,13
13	Speech automation technology	Yes	1	No	11,13
14	Electronics technology	Yes	1,3,4	No	11,13,14
15	Optics research	Yes	1,3	No	11,13
16	Metallurgy assessment	Yes	1,10	Yes	16
17	Electronics and seismic research	Yes	1,10	Yes	16
18	Speech automation research	Yes	1,10	Yes	16
19	Radar research support	No	1,4	No	11,13,14
20	Communications and electronics research	Yes	1,4	No	11,14
21	Radar technology research	Yes	1	No	11,13
22	Technology transfer support	Yes	1	No	11,13
23	Electronic sensors and target recognition research	Yes	1,3	No	11,13
24	Electronic sensors and target recognition research	Yes	1,6,9	No	11,13,15

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Reasons:

1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
3. The FFRDC was considered more cost or operationally effective than in-house and contractor resources because the FFRDC had related experience or special models.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.
5. The FFRDC could access Government classified and contractor proprietary information.

Sponsor Response to Questionnaire For Lincoln Laboratory Projects Reviewed

Reasons: (cont'd)

6. The sponsor could not meet the deadline if the project was awarded competitively.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.
10. The FFRDC's proposal was better than other commercial contractors' proposals.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.
16. While FFRDCs are not permitted to compete with non-FFRDC concerns, an evaluation panel of experts determined the FFRDC was the most effective source to do the work.

Appendix N. Software Engineering Institute Project Details

SEI Review Number	Project Title	Sponsor
1	F-16 Very High Speed Integrated Circuits Program Support	Ogden Air Logistics Center
2	Strategic Air Command Structured Software Enhancement Program Support	Strategic Air Command
3	Collaborative Air Force Institute of Technology Course Development	Air Force Institute of Technology
4	Warner-Robins Improvement Program	Warner Robins Air Logistics Center
5	Real-Time Scheduling in Ada	Chief of Naval Research
6	Training Systems Structural Models	Air Force Aeronautical Systems Center
7	Joint Integrated Avionics Working Group Domain Analysis Task Group Support	Naval Sea Systems Command
8	Computer Resource Management Technology Program	Air Force Electronic Systems Center
9	Army Communications Electronics Command SERPENT	Army Communications-Electronics Command
10	BSY-2 Basis Operations Training Program	Naval Sea Systems Command
11	National Software Capacity Study	Air Force Electronic Systems Center
12	PAVE PACE	Air Force Wright Aeronautical Laboratories
13	PAVE PACE Support	Air Force Wright Aeronautical Laboratories
14	Next Generation Computer Resource Support	Space and Naval Warfare Systems Command
15	National Security Agency Environment Support/CASE Integration	National Security Agency
16	Naval Ocean Systems Center Process Program Support	Naval Ocean Systems Center
17	Space and Naval Warfare Systems Command Process Support	Space and Naval Warfare Systems Command
18	Ada (program language) 9X Revision #2	Wright Armament Laboratories
19	Gunter Standard Systems Center Support	Air Force Electronic Systems Center
20	Advance Research Projects Agency/Information Science Technology Office STARS Program	Advanced Research Projects Agency
21	Air Force Logistics Command Support	Air Force Logistics Command
22	Naval Weapons Center Process Support	Naval Sea Systems Command
23	Defense Modeling and Simulation Office Support	Director, Defense Research and Engineering
24	Structural Modeling for Real-Time Simulators	Air Force Aeronautical Systems Center

Sponsor Response to Questionnaire For Software Engineering Institute Projects Reviewed

SEI Review Number	Type/Nature of Work	Were Alternatives to FFRDC Use Considered?*	Reason(s) for Selecting FFRDC	Was Rationale for Using FFRDC Convincing?	Rationale
1	Software engineering support	Yes	1,9	No	11,13,15
2	Software engineering support and training	No	1,9	No	11,13,15
3	Training, course development, administrative and technical support	Yes	1,2,9	No	11,12,13,15
4	Software engineering support and training	Yes	1,9	No	11,13,15
5	Software engineering support analysis	Yes	1	No	11,13
6	Software engineering support analysis	Yes	1,2,5	No	11,12,13,14
7	Software engineering support	Yes	1,9	No	11,13,15
8	Software engineering support analysis and training	Yes	1,8	No	11,13
9	Software engineering support	Yes	1	No	11,13
10	Software engineering support analysis	Yes	1	No	11,13
11	Software engineering capability assessment	Yes	1,5	No	11,13,14
12	Software engineering technology assessment	Yes	2,4,6	No	12,13,14,15
13	Software engineering support	Yes	2,4,6	No	12,13,14,15
14	Software engineering support and planning	Yes	1,9	No	11,13,15
15	Software engineering support and systems integration	Yes	1,4,9	No	11,13,14,15
16	Software engineering support	No	1	No	11,13
17	Software engineering training support	No	1,6	No	11,13,15
18	Software engineering support	Yes	1	No	11,13
19	Software engineering support	Yes	1	No	11,13
20	Software engineering support and analysis	Yes	1,4,6	No	11,13,14,15
21	Software engineering support and training	Yes	1	No	11,13
22	Software engineering support and training	No	1,9	No	11,13,15
23	Software engineering and modeling and simulation planning	Yes	1,4	No	11,13,14
24	Software engineering and modeling and simulation support	Yes	1,2,5	No	11,12,13,14

*Sponsor stated that either in-house or non-FFRDC contractors or both were considered for the work.

Reasons:
1. The FFRDC had unique expertise/prior knowledge or special models.
2. The in-house resources with the needed skills were fully employed or not available in sufficient numbers.
4. The FFRDC was considered independent, objective, and free from conflicts of interest.

Sponsor Response to Questionnaire For Software Engineering Institute Projects Reviewed (cont'd)

Reasons: (cont'd)

5. The FFRDC could access Government classified and contractor proprietary information.
6. The sponsor could not meet the deadline if the project was awarded competitively.
8. Availability of FFRDC funds.
9. The ease and quickness in obtaining support influenced decision to use FFRDC.

Rationale:

11. The audit found no evidence that the sponsor had surveyed and assessed private contractor capabilities to do the work.
12. The audit found no evidence that the sponsor had attempted to obtain additional staff.
13. The audit found no evidence that an adequate cost comparison was performed to determine whether the work assigned to the FFRDC was cost-effective.
14. The sponsor did not address why in-house personnel or other nonprofit organizations could not do the work, or why contractors could not have been used if they had the requisite security clearances and the contracts included restrictive clauses to preclude organizational conflicts of interest.
15. Work could have been awarded to a contractor under an exception to full and open competition.

Appendix O. Summary of Prior Audits and Other Reviews

General Accounting Office

GAO/NSIAD-91-60 (OSD Case No. 8382), "Test and Evaluation: The Director, Operational Test and Evaluation's Controls Over Contractors," December 1990. The report states that IDA used contractors who had worked on programs to perform operational test and evaluation of those programs. The report questions the objectivity of IDA because of its work for DoD organizations responsible for system acquisition and development testing. The report recommended that the Director, Operational Test and Evaluation, require IDA to disclose possible conflicts of interest. The Director concurred with the recommendations. We determined that, in February 1991, IDA established guidelines for performing work for the Director, Operational Test and Evaluation, to preclude conflicts of interest arising from reassignments of IDA research staff. The guidelines provided that:

o the work for the Director, Operational Test and Evaluation, would be performed by a separate group that would not undertake tasks for any other sponsor for systems and programs over which the Director, Operational Test and Evaluation, had oversight responsibilities; and

o no IDA staff member or consultant would be assigned to an operational test and evaluation task if they had participated in the evaluation or analysis of that system for any sponsor other than the Director, Operational Test and Evaluation.

We believe this segregation of work responsibilities reduces the potential for bias in the operational testing provided by the FFRDC.

GAO/NSIAD-88-22 (OSD Case No. 7751), "Competition: Issues on Establishing and Using Federally Funded Research and Development Centers," March 7, 1988. The report states that the special relationship FFRDCs had with their sponsors restricted competition. This lack of competition limited the Government's ability to know whether non-FFRDCs could do work better or at less cost. The report recommended a program to test the use of broad agency announcements to assess the potential for non-FFRDCs to accomplish DoD

research and to improve DoD assurance that FFRDC work was the most effective. DoD disagreed with the recommendation, stating that the needs for and uses of the FFRDCs were thoroughly assessed under existing procedures.

Inspector General, DoD

Report No. 94-174, "Organizational and Consultant Conflicts of Interest," August 10, 1994. The report states that DoD contracting officers did not effectively implement FAR conflict of interest policies and procedures. DoD contracting officers did not include one or both of the conflict of interest provisions in 34 of 78 contract solicitations sampled. DoD contracting officers did not follow up with apparent successful offerers to obtain required certifications for 44 contract solicitations that had provisions but lacked certificates. Consequently, information concerning potential conflicts of interest was not available for contracting officers consideration before contract award. The report recommended additional guidance to contracting officers on potential conflict of interest situations. Management was implementing the recommendations.

Report No. 94-012, "Sole-Source Justifications For DOD-Sponsored Federally Funded Research and Development Centers," November 4, 1993. The report states that DoD sponsors did not adequately document the basis for renewing the sole source contracts with the 10 FFRDCs reviewed. Also, the Navy could reduce costs by $6.2 million over 2 years by replacing Center for Naval Analyses field analysts with Navy personnel. The report recommended the Director, Defense Research and Engineering, require FFRDC sponsors to perform new comprehensive reviews. The report also recommended that DoD acquisition officials not award any new FFRDC contracts pending completion of acceptable comprehensive reviews and adequate sole-source justifications. The report further recommended that the Navy analyze the feasibility of replacing CNA field analysts with less costly in-house personnel. The Director and the acquisition officials agreed to perform new comprehensive reviews and to clarify the Director's role in performing the reviews. The Director stated that existing OFPP and FAR guidance on the conduct of comprehensive reviews was adequate but has agreed to further clarify these requirements in a revised FFRDC Management Plan. The Navy has tasked the Naval Audit Service to compare the costs and effectiveness of the CNA field analysts versus use of in-house Navy personnel or other contractor alternatives.

Report No. 93-113, "DoD Contractor Insurance Program," June 18, 1993. The report states that the Defense Logistics Agency contractor insurance pension reviews had reported that about $1.2 billion of savings from FY 1990 through the third quarter of FY 1992. However, contractor insurance/pension reviews

for an estimated 89 contractors and 4 FFRDCs that qualified for reviews were not accomplished as required. The report estimated that $1.6 million to $4.4 million in monetary benefits could be realized by performing contractor insurance/pension reviews at the Lincoln Laboratory, CNA, the Software Engineering Institute, and LMI. The Director, Defense Logistics Agency, agreed to evaluate the four FFRDCs to determine the need for contractor insurance/pension reviews.

Report No. 93-013, "Quick Reaction Report on the Audit of the Army Contract with the University of Texas at Austin Institute for Advanced Technology," October 27, 1992. The report stated that the establishment of the Institute for Advanced Technology and its planned expansion were contrary to the OFPP policy of relying on available resources for meeting research needs. The Army did not adequately analyze requirements or properly consider alternatives to meet those requirements. The Institute for Advanced Technology was terminated as an FFRDC effective October 1994.

Report No. 91-115, "Consulting Services Contracts for Operational Test and Evaluation," August 22, 1991. The report states that the service contracts used to support operational tests were not as cost effective as developing an in-house capability to perform the work. Services provided by IDA were shown to be 31 percent higher than comparable in-house personnel. The report recommended that the Deputy Secretary of Defense determine the number of in-house personnel needed to accomplish the requirements, make funding adjustment in the budget in order to hire additional civilian personnel and reduce the use of advisory and assistance service by 60 percent over the next 5 years. On April 23, 1992, the Deputy Secretary of Defense decided not to implement the recommendation to transfer contract work to in-house civilian personnel and not to decrease the budget.

Report No. 90-041, "Contracting Practices of the Institute for Defense Analyses," March 1, 1990. The report states that the review process used to select work for the Institute was not thorough enough to properly select noncompetitive work suitable for an FFRDC. Also, IDA did not have a mission statement that clearly differentiated between work suitable for the Institute and work that a non-FFRDC should perform. In addition, contract administration by DSS-W was not adequate to ensure that IDA complied with contract requirements and that contract payment to IDA was appropriate. Finally, the report states that the IDA management fee to cover non-reimbursable expenses, such as contract administration costs, was not based on demonstrated expenses but instead was 4.25 percent of cost. The report recommended that the Director, Defense Research and Engineering, establish a mission statement for IDA in accordance with OFPP Policy Letter 84-1 and establish procedures to adequately justify the sole-source assignment of work to IDA. The report also recommended that DSS-W contracting officer base the management fee for IDA on need and the modified weighted guidelines for

nonprofit organizations, DFARS 215.972, "Procedures for Establishing Fee Objective." The Deputy Director, Defense Research and Engineering, and the Army concurred with the recommendations. On August 14, 1992, the Director, Defense Research and Engineering, issued a memorandum, "Implementation of the Federally Funded Research and Development Center Management Plan."

Air Force Audit Agency

Report No. 0056410, "Review of Air Force-Managed Federally Funded Research and Development Centers," August 6, 1991. The report states that non-FFRDC contract support was less costly than support provided by the Aerospace Corporation and MITRE. Based on FY 1990 data, the average annual cost for an Aerospace FFRDC member of technical staff was $184,000, compared to $114,000 for a non-FFRDC technical support contract employee. Likewise, the average member of technical staff cost at MITRE was $151,000, compared to a non-FFRDC contractor cost of $135,000. The report stated that the Air Force Systems Command (now Air Force Materiel Command) program managers approved sole-source taskings for the use of FFRDCs without determining whether in-house or non-FFRDC contractors could accomplish the work; did not independently develop an estimate of their FFRDC support requirements; and did not adequately or objectively evaluate the FFRDCs' technical performance for any of the performance evaluations reviewed. The report also states that program managers and contracting officers did not adequately compute FFRDC working capital requirements, or reduce the next fiscal year fee request when FFRDCs had not initiated corporate sponsored research projects funded with current fiscal year fees. In addition, the report states that program managers financed project overruns with fees.

The report recommended that the Air Force direct program managers to coordinate proposed FFRDC taskings through the appropriate in-house functional experts to determine whether in-house personnel or non-FFRDC contractors could accomplish the taskings. Also, the report recommended that the Air Force direct Electronic Systems Division (now Electronic Systems Center) and Space Systems Division (now Space and Missile Systems Center) to establish guidance requiring program managers to develop independent member of technical staff estimates and use the estimates as a basis for ensuring that they are receiving fair and reasonable prices from the FFRDCs. In addition, the report recommended that the Air Force establish definitive policy requiring the Electronic Systems Division and Space and Systems Division Directorates of Contracting to develop a Government negotiating objective for fixed fees and direct FFRDC management to discontinue charging cost overruns to fee. Air Force management officials agreed with the conclusions and recommendations in the report.

Report No. 93064014, "Followup Audit--Review of Air Force-Managed Federally Funded Research and Development Centers," August 18, 1993. The audit evaluated the effectiveness of management actions implemented in response to selected recommendations in Report No. 0056410, "Review of Air Force-Managed Federally Funded Research and Development Centers," August 6, 1991. The report stated that the Air Force Materiel Command, the Space and Missile Systems Center, and the Electronic Systems Center were effectively defining FFRDC taskings, or using alternative methods, to prepare independent estimates of support requirements, and using independent estimates to help negotiate fair and reasonable prices. However, the Space and Missile Systems Center had not fully implemented procedures to review and validate FFRDC billing accuracy, and the Electronic Systems Center had not effectively implemented procedures to evaluate FFRDC performance. The report contained no new recommendations requiring corrective actions.

Department of the Navy

Assistant Secretary of the Navy (Research, Development, and Acquisition) Special Procurement Management Review, "Contracting Through Navy Laboratories and Use of Federally Funded Research and Development Centers," July 1989. The report stated that Navy activities were unaware of the requirements governing the proper use of FFRDCs. As a result, the Navy improperly used Center for Naval Analyses and Department of Energy FFRDCs for support services and general information gathering. In response to this problem, the Assistant Secretary issued a memorandum on May 25, 1990, reminding FFRDC users of requirements of the Economy Act, the Competition in the Contracting Act, the Brooks Act, and FAR 35.017, "Federally Funded Research and Development Centers."

Congressional Research Service

Report No. 91-378 SPR, "DoD's Federally Funded Research and Development Centers (FFRDCs)," April 29, 1991. The report summarized congressional concerns related to the DoD FFRDCs. These concerns included the increased funding and growth of the FFRDCs at the same time that research, development, test, and evaluation funding was decreasing; contentions that contracting officials increasingly placed sole-source contracts with FFRDCs to bypass requirements of the Competition in Contracting Act and other procurement regulations; the extent to which FFRDCs are required because of their ability to maintain objectivity and avoid conflicts of interest; the

inadequate oversight of the FFRDCs; and the diversification of FFRDCs into areas beyond their originally defined missions. In regard to diversification, the report stated that members of Congress were considering allowing some FFRDCs to broaden their science and technology activities together with requiring FFRDCs to compete with non-FFRDCs.

U.S. Senate

Subcommittee on Oversight of Government Affairs Report, Committee on Governmental Affairs Report, "Inadequate Federal Oversight of Federally Funded Research and Development Centers," July 8, 1992. The report states that cost, accounting, and auditing controls were inadequate and inconsistent and had contributed to wasteful and inappropriate use of Federal Funds by FFRDCs. The report states that Congress had repeatedly expressed concerns about DoD excessive funding and inadequate management of FFRDCs and noted House and Senate Appropriations Committees actions in FYs 1991 and 1992 appropriations bills to reduce funding and improve the management of DoD FFRDCs.

The subcommittee report highlights problems identified by the Air Force Audit Agency and the Defense Contract Audit Agency at Air Force-sponsored FFRDCs involving lack of independent cost estimates; failure to ensure the validity and the reasonableness of costs, inadequate review of management fee requests and travel costs; inadequate review and monitoring of projects assigned to the FFRDCs; and the charging of excessive indirect costs by the Massachusetts Institute of Technology against the Lincoln Laboratory contract.

The report addresses subcommittee concerns regarding contract provisions that allow the payment of a management fee to CNA for charges that were otherwise unallowable, including funding of a tuition program for the children of CNA employees. The report questioned why a fixed fee was paid to a nonprofit corporation whose sole purpose was to run an FFRDC. The report also noted that most DCAA audits were not timely, and several contained audit exceptions that were unresolved as of the subcommittee survey.

The report further notes that the competitive award of FFRDC operating contracts was generally lacking. The report states that the Competition in Contracting Act was enacted to hold down contract costs through the use of competitive procedures and that exempting FFRDCs from competition under title 10, United States Code, section 2304(c)(3), was not intended to eliminate competition from contracts to operate FFRDCs.

The report addresses concerns about combined FFRDC operations, stating that RAND Corporation operates three separate FFRDCs for DoD and that MITRE Corporation operates two FFRDCs, one for DoD and one for the Federal Aviation Administration. The report stated that both FFRDCs issued combined financial statements and provide combined indirect cost data for audit.

The report also listed concerns regarding the operation of "shell corporations," such as CNA, IDA, Aerospace Corporation, and LMI. The report states that the sole purpose of the corporations was to operate an FFRDC and that a shell corporation with no other assets or functions has less independence and was more difficult to dislodge in the event of poor performance.

The report recommended that OFPP and the sponsors of all FFRDCs improve oversight over FFRDC spending. The recommendations included improving cost, accounting, and auditing controls; re-assessing the need for management fees; and increasing competition for FFRDC contracts. The report also recommended that sponsors assess the independence of FFRDCs and the cost and benefits of operating multiple FFRDCs from a single site.

Defense Contract Audit Agency

We considered the following DCAA reports for each FFRDC during our audit.

Institute for Defense Analyses

Report	Title	Issue Date
6121-93H21000001	Audit of Proposal for Initial Pricing Under Fiscal Year 1994 DIMO/DARPA Contract	February 16, 1993
6121-92H11520002	Review of the Electronic Data Processing Application Controls Associated with the Labor Distribution System	February 3, 1993
6121-92H19406001	Examination for Compliance with CAS 406-Cost Accounting Periods	January, 21, 1993
6121-91H11530101-S1	Supplement to Audit of Electronic Data Processing Billing Algorithm	September 11, 1992
6121-92H10610001	Follow-Up Audit of Travel Procurement and Related Activities	July 24, 1992
6121-91H11530101	Audit of Electronic Data Processing Billing Algorithm	May 28, 1992
6121-92H21000002	Audit of Proposal for Initial Pricing Under MDA903-89-C-0003-P00017	January 10, 1992
6121-91H24030001	Follow-Up Estimating System Review	February 26, 1991
6121-9H240001	Estimating System Survey Institute for Defense Analyses	September 29, 1989
6121-91H44100001	Audit of Adequacy and Compliance of Revised Disclosure Statement Dated 1 October 1990	December 5, 1990
6121-OH130002	Follow-Up Compensation System Review	September 28, 1990
6121-8C160068	Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1985	September 28, 1990
6121-OH140001	Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1986	September 27, 1990
6121-8C160032	Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1984	September 13, 1990
6121-9H130002	Review of Compensation System	September 20, 1989

RAND Corporation

Report	Title	Issue Date
4101-92F13030009	Audit Report on Results of Labor Timekeeping and Floorcheck	August 26, 1992
4104-92F19100011	Adequacy and Compliance of Revised Disclosure Statement Dated 3 February 1992	May 4, 1992
4101-92F28000007	Audit of Revised Need for Fee Proposal for Fiscal Year 1992 Contract No. F49620-91-C-0003	March 13, 1992
4101-91F13030039	Audit Report on Results of Floorcheck	February 7, 1992
4101-92F19100003	Adequacy and Compliance Review of Revised Disclosure Statement Dated 11 October 1991	January 16, 1992

RAND Corporation (cont'd)

Report	Title	Issue Date
4101-92F28000005	Audit on Application of Agreed Upon Procedures Revised Proposal for FY 92 Effort Under Contract No. NDA903-91-C-0006	January 6, 1992
4101-91F27000024	Audit of Proposal for Modification Under Contract No. MDA903-91-C-0006	September 27, 1991
4101-91F14010008	Advisory Report on Final Procurement-Determined Indirect Cost Rates and Direct Costs for Fiscal Year Ended September 24, 1989	September 16, 1991
34101-91F14010001	Advisory Report on Final Procurement-Determined Indirect Cost Rates and Direct Costs for Fiscal Year Ended September 25, 1988	September 16, 1991
4101-91F28000020	Audit of Need for Fee Proposal for Fiscal Year 1991	July 2, 1991
4101-91F21000001,S2	Supplement to Audit of Proposal for Initial Pricing on Follow on to Contract No. F49620-91-C-0001	May 17, 1991
4101-91F21000003	Audit of Proposal for Initial Pricing on Follow on to Contract No. MDA903-86-C-0059	November 28, 1990
4101-91F21000001	Audit of Proposal for Initial Pricing Under Contract No. F49620-91-C-0001	November 9, 1990
4101-0F130016	Follow-Up Audit of Contractor's Employee Compensation System Review	September 20, 1990
4101-9F442020	Noncompliance with CAS 402, CAS 415 and Disclosed Practice Found During Evaluation of Contractor Compensation System	September 26, 1989
4101-9F130016	Review of Contractor Employee Compensation System	September 26, 1989
4101-9F210023	Review of Price Proposal No. 89-190 Contract No. MDA903-90-C-0004	September 6, 1989

Logistics Management Institute

Report	Title	Issue Date
6221-91C44100001.133	Concurrent Adequacy and Compliance Review of Revised Disclosure Statement	February 6, 1991
6221-91C4450001-105	Adequacy of Cost Impact Proposal	January 10, 1991
6221-90C44100004.014	Adequacy and Compliance of Revised Disclosure Statement	October 12, 1990
6221-90C16990006.421	Advisory Audit Report of Incurred Costs for Fiscal Year 1988	September 24, 1990
6221-9C210049.404	Audit of Proposal for FY 1990 Initial Funding Under Contract No. MDA903-90-C-0006	September 27, 1989
6221-89C21000026.202	Review of Proposal for Initial Pricing Under RFP No. MDA903-85-C-0139	May 4, 1989

Logistics Management Institute (cont'd)

Report	Title	Issue Date
6221-9C160601.007	Contract Audit Closing Statement Contract No. DAAG29-85-C-0006	January 11, 1989
6221-8C160.004	Advisory Audit Report of Incurred Costs for Fiscal Years 1985, 1986 and 1987	September 30, 1988
6221-8B441.001-S1	Supplemental Audit Adequacy and Compliance of of the Revised Disclosure Statements	February 1, 1988
6221-8B441.001	Adequacy and Compliance of the Revised Disclosure Statements	January 22. 1988
6221-8C442.001	Review of Non-Compliance with Cost Accounting Standard 405	December 18, 1987
6221-7E441.005	Adequacy and Compliance of the Revised Disclosure Statement	June 30, 1987
6221-7E441.002	Evaluation of the Adequacy of the Initial Disclosure Statement	February 20, 1987

Center for Naval Analyses

Report	Title	Issue Date
6121-93C19100001	Adequacy and Compliance of Revised Disclosure Statement Dated 23 October 1992	January 15, 1993
6121-92C14010001	Audit of Annual Incurred Costs For Fiscal Year Ending 30 September 1990	September 30, 1992
6121-92C19100003	Adequacy and Compliance of Revised Disclosure Statement Dated 1 August 1992	September 29, 1992
6121-92C19200001	Noncompliance with CAS 401	August 7, 1992
6121-92C19100002	Compliance for Initial Disclosure Statement Dated 31 January 1992	August 7, 1992
6121-92C19100001	Adequacy of Disclosure Statement Dated 31 January 1992	May 11, 1992
6121-92C17900002	Audit of Proposed Revision to Overseas Field Allowances	May 7, 1992
6121-91A17700005	Audit of Accounting System for CNA	September 10, 1991
6121-0B160031 R-1	Revised Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1987	February 4, 1991
6121-0B160027 R-1	Revised Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1986	February 4, 1991
6121-0B160009 R-1	Revised Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1985	February 4, 1991

Center for Naval Analyses (cont'd)

Report	Title	Issue Date
6121-91A16992716	Review of Timekeeping Practices	January 9, 1991
6121-91A16990601	Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1989	December 18, 1990
6121-0B160036	Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1988	November 15, 1990
6121-0B160031	Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1987	August 29. 1990
6121-0B210003	Audit of Proposal for Initial Pricing Under RFP No. N00014-CNA	June 29, 1990
6121-0B160027	Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1986	May 17, 1990
6121-0B160009	Evaluation of Direct and Indirect Costs and Rates Claimed for Fiscal Year Ended 30 September 1985	March 30, 1990

MITRE Corporation

Report	Title	Issue Date
2180-93A19100002	Audit of Adequacy and Compliance of Revised Disclosure Statement	February 26, 1993
2180-93A19410002	Audit of CAS 410 Compliance	February 11, 1993
2180-93A23000001	Review of Revised Forecasted Overhead Rates for Fiscal Year Ending 31 July 1993	November 9, 1992
2180-93A19100001	Audit of Adequacy and Compliance of Revised Disclosure Statement	October 19, 1992
2180-92A19405003	Audit of CAS 405 Compliance	September 28, 1992
2180-92A19404002	Audit of CAS 404 Compliance	September 28, 1992
2180-92A19408005	Audit of CAS 408 Compliance	September 28, 1992
2180-92A17900003	Verification of Costs Incurred on Public Voucher No. 162	September 24, 1992
2180-92A19403001	Report on Audit of CAS 403 Compliance	September 22, 1992
2180-92A19406004	Compliance with Cost Accounting Standard 406	September 14, 1992
2180-92A19200001	Noncompliance With Disclosed Accounting Practices	August 28, 1992
2180-92A21000003	Price Proposal FY 1993 Air Force Proposal Contract F19628-89-C-0001 Option Year 4	August 12, 1992
2180-92A16200001-0377	Consultant Costs Incurred During Fiscal Year 1991	July 28, 1992
2180-91A14010002-0491	Direct Costs and Indirect Expenses for the Period 1 August 1988 Through 31 July 1989	July 6, 1992
2180-92A10501001-0339	Computer Systems and Equipment	March 27, 1992
2180-92A17900001-0163	Verification of Costs Incurred For Public Voucher No. 116	December 16, 1991
2180-91A13010005-0149	Incurred Labor Costs FY 1989	December 5, 1991

MITRE Corporation (cont'd)

Report	Title	Issue Date
2180-91A14160001-0063	Contractor Insurance/Pension Review	November 19,1991
2180-91A12010004-0666	Incurred Material and Service Costs - FY 1989	August 30, 1991
2180-91A21000003-0602	Price Proposal Submitted by FY 1992 Army Proposal RFP DAAAB07-91-R-E565	July 29, 1991
2180-91A21000002-0601	Price Proposal FY 1992 Air Force Proposal Contract F19628-89-C-0001 Option Year 3	July 29, 1991
2180-91A14010001-0419	Direct Costs and Indirect Expenses for the Period 1 August 1987 through 31 July 1988	May 8, 1991
2180-91A16600003-0425	Incurred Travel and Relocation Costs - FY89	May 7, 1991
2180-91A15400001-C122	Contract Audit Closing Statement Contract No. 68-01-6610	April 3, 1991
2180-0A130005-0133	Compensation System and Rates	January 29, 1991
2180-91A12010001-0185	Incurred Material and Service Costs - FY 88	January 16, 1991
2180-91A16600002-0146	Incurred Travel and Relocation Costs - FY 88	January 10, 1991
2180-91A10503001-0268	Audit of Direct Labor and Related Supervision	March 4, 1990
2180-0A110001-0293	Review of Budgetary Systems and Financial Controls	March 1, 1990
2180-91A42010001-0176	Negative Results of Postaward Review	January 31, 1990

Aerospace Corporation

Report	Title	Issue Date
4111-92T13030014	Audit of Timekeeping Practices Fiscal Year 1992 Floorcheck No. 2	February 4, 1993
4111-92T13030013	Audit of Timekeeping Practices Fiscal Year 1992 Floorcheck No. 1	February 3, 1993
4251-92L16990008	Audit of Timekeeping System	July 14, 1992
4101-91B13030014	Advisory Report on Floorcheck Fiscal Year 1991	March 23, 1992
4101-91B11050017	Audit of Internal Controls System	March 23, 1992
4101-92B17900005	Unsubmitted Expenses Incurred by the Board of Trustees	December 11, 1991
4101-91B14010007	Advisory Report on Audit of Procurement-Determined Indirect Cost Rates and Direct Costs for Fiscal Year Ended September 30, 1989	September 30, 1991
4101-91B14010001	Advisory Report on Audit of Procurement-Determined Indirect Cost Rates and Direct Costs for Fiscal Year Ended September 30, 1988	September 30, 1991
4101-91B11010015	Audit of Billing System Fiscal Year 1991	September 20, 1991
4101-91B28000013	Audit of Fiscal Year 1992 Cash Flow and Sources and Applications of Funds Forecasts	August 9, 1991
4101-91B21000011	Audit of Proposal for Initial Pricing Under Contract No. F04701-88-C-0089, Option 3	July 12, 1991

Aerospace Corporation (cont'd)

Report	Title	Issue Date
4101-91B17100010	Audit of Settlement Proposal for Partial Termination of FY 1991 SSD Cost Plus Fixed Fee	June 10, 1991
4101-0B130018	Follow-Up Audit of Contractor's Employee Compensation System Review	September 14, 1990
4101-90B44100014	Audit of Adequacy and Compliance of Revised Disclosure Statements Dated 29 February 1988 and 30 August 1990	June 13, 1990
4101-0B442010	Noncompliance with CAS 405 Found During Audit of FY 1986 Incurred Cost Under Contract F04701-85-C-0086	April 10, 1990
4101-9B110022/tdc	Review of Billing System Fiscal Year 1989 Contract No. F04701-88-C-0089	January 24, 1990
4101-0B442003	Noncompliance with CAS 401 Found During Evaluation of Revised Supplemental Proposal for Modification of FY 1988	November 28, 1989
4101-9B210020,S1	Supplement to Review of Proposal for Initial Pricing Under Contract No. F04701-88-C-0089 Option 1	July 24, 1989
4101-9B130002	Review of Contractor's Employee Compensation System	July 11, 1989
4101-9B210020	Review of Proposal for Initial Pricing Under Option 1 of Contract No. F04701-88-C-0089	June 16, 1989
4101-8B210012, S-1/B1	Supplement to Review of Proposal for Initial Pricing Under RFP No. F04701-R88-R-0089	July 21, 1988
4101-8B210012	Review of Proposal for Initial Pricing Under Contract No. F04701-88-R-0089	June 20, 1988

Lincoln Laboratory

Report	Title	Issue Date
2177-91G14010016-0549	Advisory Report on Audit of Direct Costs and Indirect Fiscal Expenses for the Year Ended 30 June 1989	March 22, 1993
2176-92F14010001-0801	Report on Audit of Direct Costs Incurred for Period 1 July 88 Through 30 June 1989 and 1 July 1989 through 30 June 1990	March 10, 1993
2177-92G17900006-0753	Review of the Student Service Study	November 28, 1992
2176-90F11000011-0510	Report on Audit of Internal Controls	September 30, 1992
2177-92G23000001-0305	Audit of Proposal to Establish Indirect Negotiated Fixed Rates and Carryforward Provisions for FY Ending June 1993	June 22, 1992
2177-92G23000002-0307	Audit of Proposal to Establish Employee Benefit Rates for Fiscal Year Ending 30 June 1993	May 22, 1992

Lincoln Laboratory (cont'd)

Report	Title	Issue Date
2177-92G14010001-0073	Advisory Report on Audit of Direct Costs and Indirect Expenses for the Fiscal Year Ended 30 June 1990	January 27, 1992
2176-0F120013	Audit of Incurred Costs	August 5, 1991
2177-0G230063-0370	Audit of Proposal to Establish Fixed Indirect Cost Rates for Fiscal Years Ending 30 June 1991 and 30 June 1992	June 13, 1990
2177-9G130007-0644-S1	Supplement to Adequacy of the Compensation System and Reasonableness of Compensation Rates	March 5, 1990
2173-9F110003-0553	Report on Review of Billing Procedures	September 13, 1989

Software Engineering Institute

Report	Title	Issue Date
6381-91C14010003S1058	Supplement to Final Audit of Costs Incurred For Fiscal Year Ended 30 June 1987	May 15, 1992
6381-92C23000003-245	Audit of Fixed Rate Proposal Fiscal Year 1993	April 2, 1992
6381-92C23000001S1050	Supplement to Audit of Fixed Rate Proposal Fiscal Year 1992	January 22, 1992
6381-91C1401004-059	Final Audit of Costs Incurred for Fiscal Year Ended 30 June 1988	November 22, 1991
6381-91C1401003-058	Final Audit of Costs Incurred for Fiscal Year Ended 30 June 1987	November 22, 1991
6381-92C23000001-050	Audit of Fixed Rate Proposal Fiscal Year 1992	November 15, 1991
6381 91C11050021-504	Report on Internal Control Deficiencies	September 30, 1991
6381-0C160004-351	Report on Follow-Up Compensation System Review	September 10, 1990
6381-0C177001-217	Report on Response to Accounting System Deficiencies Contract No. F19628-85-C-0003	May 21, 1990
6381-0A442001-126	Report on CAS Noncompliance Found During Contract Performance	February 28, 1990
6381-0C445002-332	Audit of CAS 408 Cost Impact Under Contract No. F19628-85-C-0003	August 17, 1990
6381-0C445001-220	Report on CAS 405 Cost Impact Contract No. F19628-85-C-0003	May 21, 1990
6381-9J177009-556	Report on System Deficiencies Found During Contract Performance	September 28, 1989
6381-9J130001-191	Report on Review of Employee Compensation	September 21, 1989
6381-9J442002-465	Report on Noncompliance Found During Contract Performance	August 8, 1989

Appendix P. Summary of Uses of FY 1992 FFRDC Management Fees

FFRDC	Thousands				
	Total Management Fee Payments	Appropriate Uses	Inappropriate Uses		
		Facilities and Equipment[1]	Allowable Expenses[2]	Unallowable Expenses[3]	Undistributed Fees[4]
IDA	$ 5	$ 5	$ 5	$ 5	$ 5
LMI	5	5	5	5	5
RAND Corporation[6]	5	5	5,7	5	5
CNA	5	5	5	5	5
Aerospace Corporation	5	5	5	5	5
MITRE C[3]I Division	5	5	5	5	5
Total	$46,869.5	$3,903.1	$31,451.3	$4,965.7	$6,549.4

[1]Assumes several FFRDCs funded additional facilities and equipment costs from depreciation reimbursement and from other income.
[2]Costs were allowable under applicable Government cost criteria and includes items classified by the FFRDCs as "corporate-sponsored research" and as "non-reimbursable expenses that should have been charged to overhead" (Table Q-2).
[3]Costs were unallowable under applicable Government cost standards and includes items classified by the FFRDCs as "non-reimbursable expenses" that should not have been paid (Table Q-1).
[4]Fees not necessary for current year expenses that should not have been paid (Table Q-1).
[5]Proprietary data removed.
[6]Includes contract fees and expenses for Project AIR FORCE, NDRI, Arroyo Center, and non-FFRDC activities.
[7]Does not include an additional $ [proprietary data removed] million that was financed through the RAND endowment fund.

Appendix Q. Details on Uses of FY 1992 FFRDC Management Fees

Table Q-1. Unallowable Expenses and Undistributed Fees That Should Not Have Been Paid
(thousands)

Item Description[1]	CNA	IDA	LMI	RAND	Aerospace	MITRE	Total
Unallowable expenses							
Dependent scholarships	$ [2]						$ 103.3
Community program	[2]				$ [2]		287.0
CNA-sponsored symposia	[2]						10.0
Bond interest and fee (building)		$ [2]					1,061.0
DCAA disallowance		[2]					93.0
Interest expenses		[2]	$ [2]	$ [2]	[2]		397.4
Excessive travel costs		[2]	[2]		[2]		82.4
Contributions		[2]				$ [2]	70.0
Tax liability on interest income		[2]	[2]				25.0
Miscellaneous unallowable	[2]	[2]		[2]	[2]	[2]	600.1
Trustee expenses			[2]			[2]	110.3
Excess relocation costs				[2]	[2]	[2]	1,308.2
Matching contributions to universities					[2]	[2]	649.5
Corporate education					[2]	[2]	104.2
Grant cost sharing					[2]		4.9
Nonreimbursable lease					[2]		59.4
Subtotal	$ [2]	$ [2]	$ [2]	$ [2]	$ [2]	$ [2]	$ 4,965.7
Undistributed Fees	[2]	[2]	[2]	[2]	[2]	[2]	6,549.4
Total	$ [2]	$ [2]	$ [2]	$ [2]	$ [2]	$ [2]	$11,515.1

[1]For a full item description of each unallowable expense, see the item descriptions beginning on the next page.
[2]Proprietary data removed.

Item Descriptions for Table Q-1

Dependent Scholarships. Includes tuition scholarship program costs for dependents of CNA employees. Costs for employee dependent scholarships are not provided for under Office of Management and Budget Circular A-122, "Cost Principals for Nonprofit Organization." FAR 31.205-44, "Training and Education Costs," states that costs of college plans for employee dependents are unallowable.

Community Program. Cost of participating in the community such as tutoring and career counseling at local high schools. FAR 31.205-1(f)(7), "Public Relations and Advertising Costs," states that costs of memberships in civic and community organizations are not allowable.

CNA-Sponsored Symposia. Costs of meetings held at CNA and outside CNA facilities to exchange views that were not directly chargeable to specific contract tasks. FAR 31.205-1(f)(3), "Public Relations and Advertising Costs," states that costs of sponsoring meetings, symposia, seminars, and other special events when the principal purpose of the event is other than dissemination of technical information or stimulation of production are not allowable.

Bond Interest and Fee (Building). Costs of bond discounts and professional fees for IDA new buildings. FAR 31.205-20, "Interest and Other Financing Costs," states that interest on borrowing, bond discounts, costs of financing and refinancing capital, legal and professional fees paid in connection with preparing prospectuses are not allowable.

DCAA Disallowance. Includes unallowable costs, such as advertising and excess employee relations expenses for parties, that were disallowed based on the Defense Contract Audit Agency's incurred cost review of FY 1988 IDA expenses.

Interest Expenses. Includes costs of borrowing money from commercial banks. FAR 31.205-20, "Interest and Other Financing Costs," states that interest on borrowing, bond discounts, costs of financing and refinancing capital, legal and professional fees paid in connection with preparing prospectuses are not allowable.

Excessive Travel Costs. Costs of transportation, lodging, meals and incidental expenses related to business but that exceed FAR and Joint Travel Regulation limits. FAR 31.205-46, "Travel Costs," states that costs incurred for lodging, meals, and incidental expenses shall be considered to be reasonable and allowable only to the extent that costs do not exceed on a daily basis the maximum per diem rates in effect at the time of travel as set forth in the Federal Travel Regulation, the Joint Travel Regulations, and Standardized Regulations.

Contributions. Includes costs of cash donations made to charitable organizations. FAR 31.205-8, "Contribution or Donations," states that contributions or donations, including cash, property and services, regardless of recipient, are unallowable.

Tax Liability on Interest Income. Provides for income tax payments made on interest income from investments. FAR 31.205-41(b)(1) states that Federal income and excess profits taxes are not allowable.

Miscellaneous Unallowable. Includes miscellaneous unallowable costs not allowed by Office of Management and Budget Circular A-122 or FAR part 31, "Contract Cost Principles and Procedures," but which are generally considered and accepted as normal cost of doing business. FFRDC officials stated that breaking down this type of expense in detail would be very time consuming because the cost for individual items were very insignificant and could not be classified to other accounts.

Trustee Expenses. Costs of trustee meetings not charged to overhead such as meals and lodging in excess per diem rates, first class travel, spouse travel and alcoholic beverages. FAR 31.205-46(d), "Travel Costs," states that airfare costs in excess of the lowest customary standards, coach, or equivalent airfare offered during normal business hours are unallowable. Costs of alcoholic beverages are unallowable under FAR 31.205-51, "Costs of Alcoholic Beverages."

Excess Relocation Costs. Includes costs of employee moving expenses, such as travel, dislocation allowance, moving services and real estate fees that were in excess of the FAR limits. FAR 31.205-35, "Relocation Costs," states that relocation costs are allowable if they are within the FAR limits.

Matching Contributions to Universities. Includes payments made by FFRDCs to match employee contributions to their universities. FAR 31.205-8, "Contribution or Donations," states that contributions or donations, including cash, property and services, regardless of recipient, are unallowable.

Corporate Education. Includes tuition, room and board costs for employees attending advanced studies programs that, according to FFRDC officials, are not an allowable overhead expense. FAR 31.205-44, "Training and Education Costs," provides that training and education costs in excess of the FAR may be allowable to the extent set forth in an advance agreement negotiated under FAR 31.109, "Advance Agreements." FAR 31.109 provides for the negotiation of and written agreement on costs before the costs are incurred. No advanced agreements were negotiated for education expenses.

Grant Cost Sharing. Includes the cost of grants made to universities. FAR 31.205-44(g), "Grants," states that grants to educational or training institutions, including the donation of facilities or other properties, scholarships, and fellowships, are considered contributions and are unallowable.

Nonreimbursable Lease. Includes costs, such as leasing, maintenance, gas and oil, and insurance associated with furnishing automobiles to Aerospace Corporation executives. FAR 31.205-46(f), "Travel Costs," states that the portion of the cost of company-furnished automobiles related to personal uses by employees (including transportation to and from work) is compensation for personal services and is unallowable.

Table Q-2. Allowable Expenses That Should Have Been Charged To Overhead

(thousands)

Item Description[1]	CNA	IDA	LMI	RAND	Aerospace	MITRE	Total
Non-reimbursable expenses							
Awards and dinners		$ [2]			$ [2]	$ [2]	$ 226.0
Cost overruns		[2]	$ [2]			[2]	680.0
Employee relations		[2]	[2]	$ [2]			41.5
Meeting expenses				[2]	[2]	[2]	576.8
Salaries and benefits					[2]		79.4
Severance pay						[2]	187.0
Retiree health insurance						[2]	2,938.0
Subtotal	$ [2]	$ [2]	$ [2]	$ [2]	$ [2]	$ [2]	$ 4,728.7
Corporate-sponsored research	[2]	[2]	[2]	[2,3]	[2]	[2]	26,722.6
Total	$ [2]	$ [2]	$ [2]	$ [2]	$ [2]	$ [2]	$31,451.3

[1]For a full item description of each allowable expense, see the item descriptions beginning on the next page.
[2]Proprietary data removed.
[3]Does not include an additional $ [proprietary data removed] million that was financed through the RAND endowment fund.

Item Descriptions for Table Q-2

Awards and Dinners. Includes costs of achievement awards, patent awards, best paper awards and meals associated with the award ceremonies. FAR 31.205-6(f), "Bonuses and Incentive Compensation," states that incentive compensation for management employees, cash bonuses, suggestion awards, safety awards, and incentive compensation based on production, cost reduction, or efficient performance are allowable.

Cost Overruns. Includes costs excess to previously approved project cost estimates caused by changes in scope of work or poor performance. Charging project cost overruns to management fees limits the Governments ability to effectively monitor the cost and operational effectiveness of the FFRDCs in the performance of their work.

Employee Relations. Provides for improved employee working conditions such as cafeteria service, employee recreational and organizational activities, and flowers or memorials in connection with the death of employees or families. FAR 31.205-13, "Employee Morale, Health, Welfare, Food Service, and Dormitory Costs and Credits," states that aggregate costs incurred on activities designed to improve working conditions, employer-employee relations, employee morale, and employee performance are allowable provided costs are reasonable.

Meeting Expenses. Includes costs of luncheons, dinners, and other related meeting expenses. FAR 31.205-28, "Other Business Expenses," allows incidental costs of directors' and committee meetings and other similar costs when allocated on an equitable basis.

Salaries and Benefits. Includes salary and benefit costs of senior executives at the Aerospace Corporation and are generally allowable under FAR 31.205-6, "Compensation for Personnel Services," provided costs are reasonable and allocable.

Severance Pay. Provides for costs of payment in addition to regular salaries and wages to workers whose employment is being involuntarily terminated. FAR 31.205-6(g), "Severance Pay," allows severance pay provided it is required by law, by employer-employee agreement, by established policy that constitutes, in effect, an implied agreement on the contractor's part, or by circumstances of particular employment.

Retiree Health Insurance. Includes health insurance benefit costs for retired MITRE employees. According to MITRE officials this cost was a one-time charge to implement new accounting standards and will be charged to overhead in FY 1993 and subsequent years. FAR 31.205-7(o), "Post Retirement Benefits Other Than Pensions," states that post-retirement health care is allowable if it is reasonable and incurred pursuant to law, employer-employee agreement, or an established policy of the contractor.

Corporate-Sponsored Research. Includes costs of performing independent research that is neither sponsored by a grant nor required in performing the contract. FAR 31.205-18, "Independent Research and Development and Bid and Proposal Cost," states that costs for independent research and development are allowable if the contractor negotiates in advance. These costs are allowable as indirect expenses on contracts to the extent that costs are reasonable and allocable.

Appendix R. Guidance Over Conflicts of Interest Issues

Contracting Officer Responsibilities. FAR 9.504, "Contracting Officer Responsibilities," requires contracting officers, as early in the acquisition process as possible, to evaluate planned acquisitions and initiate action before contract award to avoid, neutralize, or mitigate any significant potential organizational conflicts of interest identified. FAR 9.504 also states that contracting officers should obtain advice of legal counsel and the assistance of appropriate technical specialists to evaluate potential organizational conflicts of interest and to develop any necessary contract solicitation provisions and contract clauses for resolving potential conflicts. Each individual contracting situation should be examined on the basis of its particular facts and the nature of the proposed contract. The two underlying principles for the examination are the prevention of conflicting roles that might bias a contractor's judgment and the prevention of an unfair competitive advantage. A contractor's judgment may be biased when a contract requires the drafting of specifications, work statements, or other requirements for future acquisitions, if the contractor expects to compete for the future acquisitions. An unfair competitive advantage may exist:

o when a contract requires the contractor to give advice that could favor its own products or capabilities,

o when the work performed on a contract allows the contractor to give advice that could favor its own products or capabilities, and

o when a contractor competing for a contract possesses proprietary information that is not available to all competitors.

Certification Requirements. FAR 9.507, "Solicitation Provisions and Contract Clause," requires contracting officers to include provisions that require contractors to submit certifications on marketing consultants used and on advisory and assistance services contracts. A contract solicitation may require either provision, both provisions, or no provision.

Marketing Consultant Certifications. DoD contracting officers should include the provision FAR 52.209-7, "Organizational Conflicts of Interest Certificate - Marketing Consultants," in solicitations for contracts expected to exceed $200,000. The provision states that a contractor who uses marketing consultants and is the apparent successful offerer for a contract will submit a certificate giving information about each marketing consultant and the services provided by the marketing consultant. FAR 9.501 defines a marketing consultant as any independent contractor who furnishes advice, information, direction, or assistance to an offerer or any other contractor in support of the preparation or submission of an offer for a Government contract by that offerer.

The apparent successful offerer must also provide a certificate signed by each marketing consultant stating that the marketing consultant was informed of FAR subpart 9.5 and that the marketing consultant either has not provided an unfair competitive advantage to the offerer or has disclosed any competitive advantage that may exist to the offerer.

Advisory and Assistance Services Certifications. Contracting officers should include the provision FAR 52.209-8, "Organizational Conflicts of Interest Certificate - Advisory and Assistance Services," in solicitations for advisory and assistance services contracts expected to exceed $25,000. The provision states that a contractor who is the apparent successful offerer for a contract exceeding $25,000 shall submit a certificate that contains information on any services provided to the Government concerning the subject matter of the contract solicitation during the past 12 months (may be extended to 36 months by the head of the contracting activity). The certificate should also contain a statement either that no actual or potential conflict of interest or unfair competitive advantage exists or that any actual or potential conflict of interest that does or may exist was communicated in writing to the contracting officer.

Appendix S. Summary of Potential Benefits Resulting From Audit

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
A.1, A.2., and A.3.	Program Results and Internal Controls. Improves compliance with OFPP and FAR policy on proper and effective use of FFRDCs.	Nonmonetary.
B.1.	Program Results and Internal Controls. Improves justifications for FFRDC management fees.	Nonmonetary.
B.2.	Program Results and Internal Controls. Restricts management fees to justifiable costs that are not otherwise allowable and improves financial disclosure of fee availability and use.	$11.6 million funds put to better use annually ($58 million over 5 years) in Military Department RDT&E* funds (Table Q-1). Also, $2.7 million funds put to better use annually in Navy RDT&E funds.
C.1.a.	Internal Controls. Prevents organizational conflicts of interest by requiring timely evaluation of all procurement actions by program and contracting officials.	Nonmonetary.
C.1.b.	Internal Controls. Prevents organizational conflicts of interest by requiring FFRDC compliance with FAR and contract requirements.	Nonmonetary.
C.2.	Program Results. Provides for collection of incorporation fees incorrectly paid.	Questioned costs of $24,625.

*Research, Development, Test, and Evaluation.

C.3.	Internal Controls. Prevents organizational conflicts of interest by excluding assignment of FFRDC personnel to oversight of the FFRDCs and promote compliance with congressional funding limitations on FFRDCs.	Nonmonetary.

Appendix T. Organizations Visited or Contacted

Office of the Secretary of Defense

Under Secretary of Defense for Policy, Washington, DC
  Director, Net Assessment, Washington, DC
Under Secretary of Defense for Personnel and Readiness, Washington, DC
Comptroller of the Department of Defense, Washington, DC
Director, Defense Research and Engineering, Washington, DC
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence), Washington, DC
Assistant Secretary of Defense (Health Affairs), Washington, DC
Assistant Secretary of Defense (Programs, Analysis, and Evaluation), Washington, DC
Assistant Secretary of Defense (Reserve Affairs), Washington, DC
Deputy Under Secretary of Defense (Logistics), Washington, DC
Director, Defense Procurement, Washington, DC
Assistant to the Secretary of Defense (Atomic Energy), Washington, DC
Director, Acquisition Policy and Program Integration, Washington, DC
Director, Strategic Defense Initiative Organization, Washington, DC
Director, Joint Staff, Washington, DC
Director, Defense Acquisition Regulations Council, Arlington, VA

Department of the Army

Chief of Staff of the Army, Washington, DC
Assistant Secretary of the Army (Manpower and Reserve Affairs), Washington, DC
Assistant Secretary of the Army (Research, Development, and Acquisition), Washington, DC
Director of the Army Staff, Washington, DC
Director of Management for the Army Staff, Washington, DC
Deputy Chief of Staff of the Army for Intelligence, Washington, DC
Deputy Chief of Staff of the Army for Logistics, Washington, DC
Deputy Chief of Staff of the Army for Operations and Plans, Washington, DC
Deputy Chief of Staff for Personnel, Washington, DC
Forces Command, Fort McPherson, GA
Army Materiel Command, Alexandria, VA
  Armament, Munitions, and Chemical Command, Rock Island, IL
  Communications-Electronics Command, Fort Monmouth, NJ
  Medical Research and Development Command, Fort Detrick, MD

Department of the Army (cont'd)

Armaments Research, Development, and Engineering Center, Picatinny Arsenal, NJ
Ballistic Research Laboratory, Aberdeen Proving Grounds, MD
Program Manager for MILSTAR (Army), Fort Monmouth, NJ
Program Manager for Clothing and Individual Equipment (Army), Woodbridge, VA
Training and Doctrine Command, Fort Monroe, VA
Combined Arms Support Command, Fort Lee, VA
Combined Arms Command, Fort Leavenworth, KS
Army Space Command, Colorado Springs, CO
Army Strategic Defense Command, Huntsville, AL
Army Community and Family Support Center, Alexandria, VA
Army Research Office, Research Park, NC
Deputy Chief of Staff for Operations, U.S. Army Europe and 7th Army, Heidelberg, Germany
Concepts Analysis Agency, Bethesda, MD
Defense Supply Service-Washington, Washington, DC

Department of the Navy

Chief of Naval Operations, Washington, DC
Assistant Secretary of the Navy (Research, Development, and Acquisition), Washington, DC
Deputy Chief of Naval Operations (Manpower, Personnel, and Training), Washington, DC
Bureau of Naval Personnel, Washington, DC
Deputy Chief of Naval Operations (Navy Program Planning), Washington, DC
Deputy Chief of Naval Operations (Logistics), Washington, DC
Deputy Chief of Naval Operations (Naval Warfare), Washington, DC
Assistant Chief of Naval Operations (Air Warfare), Washington, DC
Assistant Chief of Naval Operations (Surface Warfare), Washington, DC
Director of Navy Test and Evaluation and Technology Requirements, Washington, DC
Surgeon General of the Navy, Washington, DC
Deputy Chief of Staff for Manpower and Reserve Affairs (Marine Corps), Arlington, VA
Naval Air Systems Command, Washington, DC
Aviation Supply Office, Philadelphia, PA
Naval Sea Systems Command, Washington, DC
Naval Supply Systems Command, Arlington, VA
Space and Naval Warfare Systems Command, Arlington, VA
Naval Facilities Engineering Command, Alexandria, VA
Marine Corps Combat Development Command, Quantico, VA
Marine Corps Research, Development, and Acquisition Command, Quantico, VA
Chief of Naval Research, Arlington, VA

Department of the Navy (cont'd)

Naval Weapons Center, China Lake, CA
Naval Research Laboratory, Washington, DC
Navy Satellite Operations Center, Point Mugu, CA
Naval Command, Control, and Ocean Surveillance Center, San Diego, CA
Office of Naval Research Resident Representatives:
- Massachusetts Institute of Technology, Cambridge, MA
- Washington, DC

Department of the Air Force

Assistant Secretary of the Air Force (Acquisition), Washington, DC
Deputy Chief of Staff of the Air Force (Logistics), Washington, DC
Deputy Chief of Staff of the Air Force (Plans and Operation), Washington, DC
Assistant Chief of Staff of the Air Force (Intelligence), Washington, DC
Strategic Air Command, Offutt Air Force Base, NE
Air Force Space Command, Peterson Air Force Base, CO
Air Force Materiel Command, Wright-Patterson Air Force Base, OH
- Aeronautical Systems Center, Wright-Patterson Air Force Base, OH
- Electronics Systems Center, Hanscom Air Force Base, MA
- Space and Missile Systems Center, Los Angeles Air Force Base, CA
- Ogden Air Logistics Center, Hill Air Force Base, UT
- Warner Robins Air Logistics Center, Robins Air Force Base, GA
- Wright Armament Laboratory, Eglin Air Force Base, FL
- Phillips Laboratory, Kirtland Air Force Base, NM
  - Geophysics Directorate, Hanscom Air Force Base, MA
- Rome Air Development Center, Griffiss Air Force Base, NY
- Air Force Wright Aeronautical Laboratories, Wright-Patterson Air Force Base, OH

Air Force Center for Studies and Analyses, Washington, DC
Air Force Technical Applications Center, Patrick Air Force Base, FL
Air Force Standard Systems Center, Gunter Air Force Base, AL
Air Force Institute of Technology, Wright-Patterson Air Force Base, OH
Air University, Maxwell Air Force Base, AL
Air Force Office of Scientific Research, Bolling Air Force Base, DC

Unified Command

U.S. Special Operations Command, MacDill Air Force Base, FL

Defense Organizations

Advanced Research Projects Agency, Arlington, VA
Defense Information Systems Agency, Arlington, VA
  Defense Communications Engineering Center, Reston, VA
National Security Agency, Fort Meade, MD
Defense Contract Management Area Operations, Baltimore, MD
Defense Contract Audit Agency, Cameron Station, VA
  Branch Offices:
    Alexandria, VA
    Boston, MA
    Los Angeles, CA
    Pittsburgh, PA
    Waltham, MA
Defense Technical Information Center, Cameron Station, VA

Non-Defense Federal Organizations

Assistant Inspector General for Auditing, Department of Transportation, Washington, DC
Deputy Assistant Secretary for Management and Acquisition, Department of Health and Human Services, Washington, DC
Federal Emergency Management Agency, Washington, DC
Office of Management and Budget, Washington, DC

Non-Federal Organizations

Aerospace Corporation, Los Angeles, CA
Arroyo Center, RAND Corporation, Santa Monica, CA
Center for Naval Analyses, Alexandria, VA
Institute for Advanced Technology, Austin, TX
Institute for Defense Analyses, Alexandria, VA
Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA
Logistics Management Institute, Bethesda, MD
MITRE Corporation, Bedford, MA
National Defense Research Institute, RAND Corporation, Santa Monica, CA
Professional Services Council, Washington, DC
Project AIR FORCE, RAND Corporation, Santa Monica, CA
Software Engineering Institute, Carnegie-Mellon University, Pittsburgh, PA

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Department of the Air Force (cont'd)

Commander, Electronics Systems Center
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Defense Organizations

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Director, Defense Contract Audit Agency
Director, Defense Logistics Agency
Director, National Security Agency
Inspector General, Central Imagery Office
Inspector General, Defense Intelligence Agency
Inspector General, National Security Agency
Director, Defense Logistics Studies Information Exchange

Non-Defense Federal Organizations

Office of Management and Budget
Technical Information Center, National Security and International Affairs Division, General Accounting Office

Chairman and Ranking Minority Member of Each of the Following Congressional Committees and Subcommittees:

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
Senate Subcommittee on Oversight of Government Management, Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Operations
House Subcommittee on Legislation and National Security, Committee on Government Operations

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