

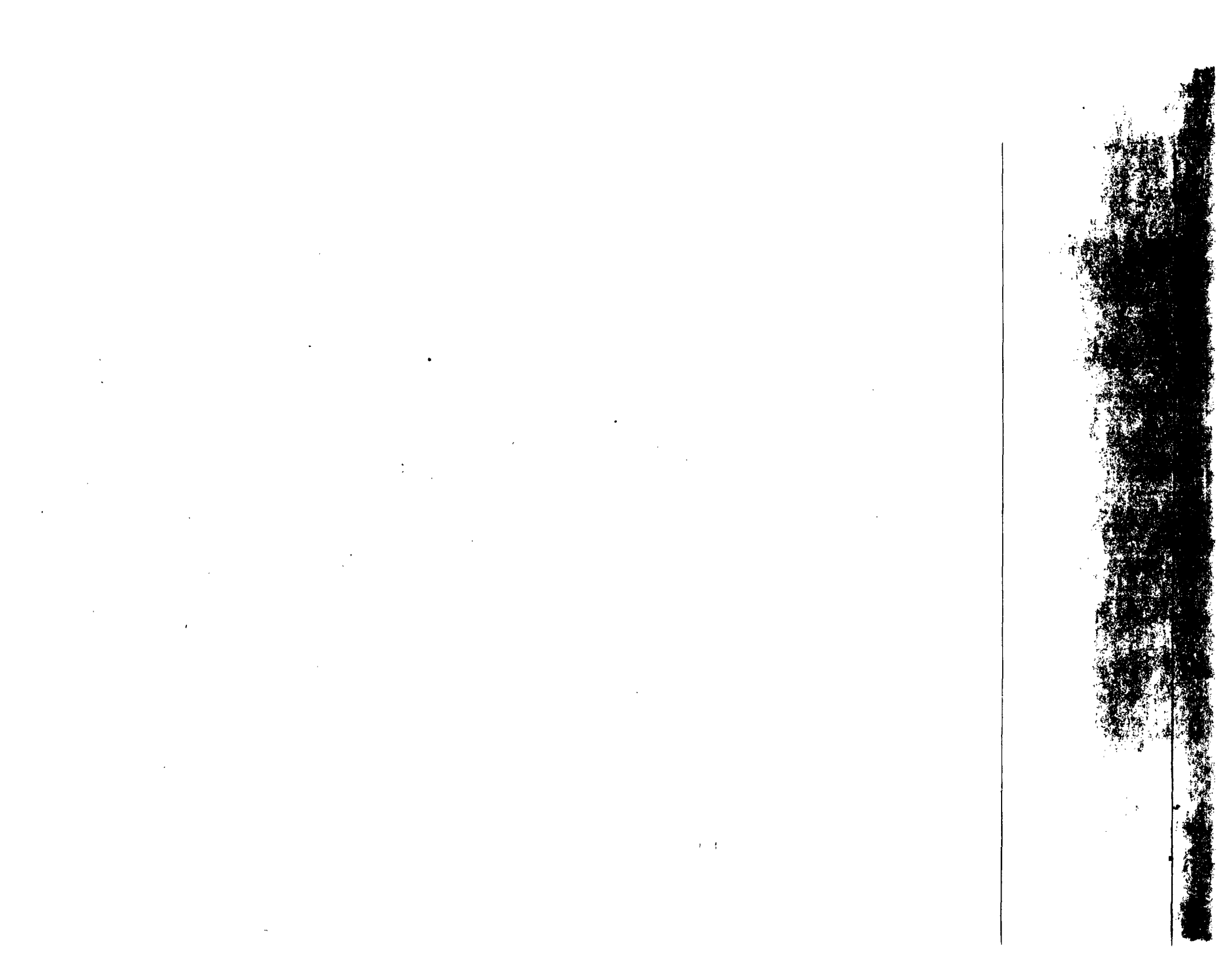
March 1988

# COMPETITION

## Issues on Establishing and Using Federally Funded Research and Development Centers



04494/135228





United States  
General Accounting Office  
Washington, D.C. 20548

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National Security and  
International Affairs Division

B-229144

March 7, 1988

The Honorable Sam Nunn  
Chairman, Committee on Armed Services  
United States Senate

The Honorable Les Aspin  
Chairman, Committee on Armed Services  
House of Representatives

As required by section 912 of the fiscal year 1987 National Defense Authorization Act, we are reporting on the national defense role of Federally Funded Research and Development Centers. The report contains information on the placement of research and development work at 12 centers—10 sponsored by the Department of Defense and 2 sponsored by the Department of Energy.

We are sending copies of this report to the Secretaries of the Army, Navy, Air Force, Defense, and Energy and the Director, Office of Management and Budget.

A handwritten signature in cursive script that reads 'Frank C. Conahan'.

Frank C. Conahan  
Assistant Comptroller General

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# Executive Summary

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## Purpose

Federally Funded Research and Development Centers (FFRDC) are privately operated, but publicly funded under a long-term contract with a federal sponsoring agency.

Industry representatives contend that some of the work FFRDCs are doing should be done by the private sector. To address this and other related issues, the fiscal year 1987 National Defense Authorization Act (10 U.S.C. 2367) directed GAO to consider the national defense role of FFRDCs in terms of the following issues:

- the relationship of FFRDCs with their sponsoring agencies (see ch. 2),
- compliance with government-wide policy on establishing and placing work with FFRDCs (see ch. 3), and
- the effect of FFRDCs' exemption from federal agency's statutory requirement to procure services on the basis of full and open competition. (See ch. 2.)

GAO was also asked to collect data on the growth of FFRDCs from fiscal years 1982 to 1986. (See ch. 1 and app. I.)

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## Background

In April 1984, government-wide policies on FFRDCs were issued by the Office of Federal Procurement Policy. According to these policies, FFRDCs are established to meet some special research or development need which, at the time, cannot be met as effectively by existing in-house or contractor resources. Work generally is performed by FFRDCs at the request of their sponsors. FFRDCs cannot compete with industry for work in response to a federal agency's "Request For Proposal."

FFRDCs are intended by their sponsors to have an intimate, flexible, and relatively informal or "special" working relationship with them, which non-FFRDCs do not have. As such, sponsors are supposed to fund their FFRDCs on a long-term basis at a level sufficient to maintain the FFRDCs' expertise.

As of September 30, 1987, 5 federal agencies sponsored a total of 36 FFRDCs; 10 were sponsored by the Department of Defense and 20 by the Department of Energy. In 1986, FFRDCs received \$4.7 billion of the \$51.4 billion the federal government obligated for research and development. In 1982, these amounts were \$4 billion and \$36.4 billion, respectively. Thus, the percent of federal research and development received by FFRDCs declined from 11 percent in 1982 to 9 percent in 1986.

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## Results in Brief

The special relationship that FFRDCs have with their sponsors means they do not have to compete for the work they conduct. This lack of competition, which is the essence of the special relationship, limits the government's ability to know whether a non-FFRDC could do the work better or at less cost. GAO's report recommends that the Department of Defense test a program which might be useful in addressing this issue.

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## Principal Findings

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### Placement of Work at FFRDCs

Work is placed with FFRDCs for a variety of reasons. Generally, FFRDCs are regarded by their sponsors as objective, competent, flexible, and convenient. Some of the projects GAO reviewed were placed at FFRDCs to take advantage of a specific expert, data, modeling capability, or equipment.

GAO's review of research work carried out by the FFRDCs indicated that the scope of the work generally was within the FFRDCs' charters.

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### Use of Broad Agency Announcements

To support an FFRDC's special relationship with its sponsor, work is not placed with FFRDCs on the basis of full and open competition.<sup>1</sup> The absence of competition is what makes a special relationship possible. The benefits of such a relationship are an FFRDC's independence, knowledge, and convenience or flexibility. The "price" sponsors pay is that they do not know for sure whether a non-FFRDC could do the work better or at less cost.

Some Department of Defense agencies use "Broad Agency Announcements" to invite proposals for research and one of the FFRDCs GAO examined—Lawrence Livermore National Laboratory—routinely performs work in response to them. Broad Agency Announcements are defined in Federal Acquisition Regulations as an

"announcement that is general in nature identifying areas of research interest, including criteria for selecting proposals, and soliciting the participation of all offerors capable of satisfying the Government's needs . . ."

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<sup>1</sup>The benefits of competition are discussed in GAO's report, Procurement: Better Compliance With Competition in Contracting Act Is Needed (GAO/NSIAD-87-145, August 1987).



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**Abbreviations**

CNA	Center for Naval Analyses
DOD	Department of Defense
DOE	Department of Energy
ESD	Electronic Systems Division
FBI	Federal Bureau of Investigation
FFRDC	Federally Funded Research and Development Center
GAO	General Accounting Office
IDA	Institute for Defense Analyses
LMI	Logistics Management Institute
OFPP	Office of Federal Procurement Policy
R&D	research and development
SEI	Software Engineering Institute



# Introduction

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The Congress is concerned that Federally Funded Research and Development Centers (FFRDC) may be doing defense related work that could be done by industry. Industry representatives claim that work placed non-competitively with FFRDCs unfairly denies industry opportunities to compete for federal research and development funds while the government is denied assurance that it is receiving the best possible research at competitive prices. Defining the proper scope of some FFRDCs' work has been a continuing issue; it has been addressed in government reports and congressional testimony since at least the 1960s.

FFRDCs are organizations exclusively or substantially financed by the federal government on a relatively long-term basis. FFRDCs are intended to conduct (1) basic and applied research, (2) development, or (3) management of research or development at the request of the federal government. FFRDCs are administered as an organizational unit within a parent organization, or as a separately incorporated organization. As of September 30, 1987, 5 government agencies sponsored 36 FFRDCs. Ten of these centers were sponsored by the Department of Defense (DOD) and 20 by the Department of Energy (DOE).

According to the National Science Foundation, the federal government obligated about \$51.4 billion for research and development (R&D) in fiscal year 1986.<sup>1</sup> Obligations of R&D funds for the private sector (industrial firms, universities and colleges, and nonprofit institutions) accounted for \$32.8 billion (64 percent), and FFRDCs accounted for \$4.7 billion (9 percent). Most of the remaining 27 percent was obligated for R&D performed by the federal government itself. DOD accounted for \$866 million<sup>2</sup> (18 percent), and DOE accounted for about \$3.4 billion (71 percent) of the R&D funds obligated for FFRDCs. In 1982, the federal government obligated \$36.4 billion for R&D; FFRDCs accounted for \$4 billion or 11 percent of this amount.

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## Request for Our Study

The Congress directed us to study the national defense role of FFRDCs because of renewed concerns about the nature and amount of work done

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<sup>1</sup>Obligations represent the amounts for orders placed, contracts awarded, services received, and similar transactions during a given period, regardless of when the funds were appropriated and when future payment of money is required.

<sup>2</sup>Fiscal year 1986 figures for DOD are provisional.

by some of these organizations. The National Defense Authorization Act for fiscal year 1987 (10 U.S.C. 2367)<sup>3</sup> directed us to consider the:

- effectiveness of procedures in ensuring that FFRDCs are established on the basis of criteria set forth in a statement of government-wide policy on FFRDCs (see ch. 3);
- effectiveness of procedures in ensuring that work placed with FFRDCs is within their purpose, mission, and general scope of effort (see ch. 3);
- FFRDCs' growth during fiscal years 1982 through 1986 measured in dollar value of work placed with such centers and in man-years of effort required to complete this work (see app. I);
- effect of FFRDCs' contract exemption from the competitive procedures required by the Competition in Contracting Act (10 U.S.C. 2304) (see ch. 2), and
- relationship of FFRDCs to their sponsors. (See ch. 2.)

Some industry representatives believe most of these concerns are connected to the persistent, unresolved issue of whether the government can appropriately distinguish R&D work that its FFRDCs should do from the work industry should do. As noted in the following sections, this issue is not new; however, it is especially important for some private organizations and Members of Congress. Other important issues concerning FFRDCs, which we were not asked to address, include how sponsors and FFRDCs can realistically maintain an FFRDC's independence and objectivity within the context of an intimate and flexible working relationship.

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## The Basis for Distinguishing FFRDC From Non-FFRDC Work

In April 1984, the government established policies for the establishment, use, periodic review, and termination of the sponsorship of FFRDCs. These government-wide policies were issued as policy letter 84-1 by the Office of Federal Procurement Policy (OFPP). As an introduction to the policy letter, OFPP observed that

“The May 1983 White House Science Council Report on Federal Laboratories, and comments from industry and professional organizations reaffirm that, absent specific guidelines and procedures, FFRDCs have migrated into areas which could have been performed as well or better by the private sector under more traditional relationships.”

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<sup>3</sup>The act also required us to report on the DOD proposal to establish a new FFRDC to provide technical support to the Strategic Defense Initiative Organization. This report was completed in November 1986. Strategic Defense Initiative Program: Experts' Views on DOD's Organizational Options and Plans for SDI Technical Support (GAO/NSIAD-87-43).

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Background to Policy  
Letter

The policy letter was intended to complete action on the recommendations of the 1972 Commission on Government Procurement. With regard to FFRDCs, the Commission concluded that agencies

“should focus particularly on ways to obtain a significant portion of the business of FFRDCs under normal competitive arrangements with both governmental and non-governmental organizations.”

Nevertheless, the Commission recommended, in part, that the government should “continue the option to organize and use FFRDCs to satisfy needs that cannot be satisfied effectively by other organizational resources.” (Underscoring added.) Although the Commission’s report does not specifically discuss the basis for distinguishing FFRDC work from work performed by others, the above recommendation established the idea of relative effectiveness as the basis for making this distinction: An FFRDC should satisfy a need more effectively than a non-FFRDC.

The Commission’s recommendation on FFRDCs, in turn, was based on a similar, but somewhat different recommendation of the Commission’s study group on research and development. Like the Commission, the study group recommended that the government retain the FFRDC option “to meet special needs of the agencies.” However, the basis of differentiation in the study group’s recommendation was not relative effectiveness, but the ability to meet a special, as opposed presumably, to a routine or unique need. In developing its recommendation, the study group specifically noted the need to develop “general guidelines as to the conditions under which the use of an FFRDC is appropriate and advantageous (i.e., when to use and when not to use FFRDCs).”

Ten years before the procurement commission’s report, the 1962 Report to the President on Government Contracting for Research and Development—the “Bell Report”—also discussed the issue of differentiation in terms of effectiveness by stating that:

“In selecting recipients, whether public or private, for research and development assignments, the basic rule . . . should be to assign the job where it can be done most effectively and efficiently, with due regard to the strengthening of institutional resources as well as to the immediate execution of projects.”

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Principle of  
Differentiation in Policy  
Letter

Twelve years after the Commission on Government Procurement's report, general guidelines on differentiation were established by the OFPP letter. As general policy, the letter states that

"Agencies will rely, to the extent practicable, 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 . . ." (See sec. 6a.)<sup>4</sup>

This general requirement, however, is modified by other parts of the policy letter which incorporate the ideas of the earlier reports. The policy letter, for example, states that in establishing an FFRDC, the sponsoring agency shall ensure that "Existing alternative sources for satisfying agency requirements cannot effectively meet the [sponsor's] special research or development needs." (Underscoring added.)<sup>5</sup> This phrase can be interpreted to mean that to distinguish FFRDC from non-FFRDC work under the policy letter, a sponsoring agency must apply a two-part test. The test should determine whether an FFRDC can meet a sponsoring agency's special research and development need and whether it can meet this need more effectively than non-FFRDCs.

This test distinguishes between a criterion that establishes a basic requirement and a criterion that distinguishes FFRDC from non-FFRDC work. As a basic requirement, an FFRDC's work should be special and consistent with an FFRDC's "purpose, mission and general scope of effort." The differentiating criterion in the policy letter is relative "effectiveness"; that is, an FFRDC must be able to meet its basic requirement more effectively than a non-FFRDC. Industry representatives, on the other hand, believe that if industry can meet the government's special research needs (the first part of the above two part test), then it, and not FFRDCs, should do so. In other words, FFRDCs should only do work that industry cannot do.

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<sup>4</sup>The Economy Act of 1932, 31 U.S.C. 1535, states that an agency may perform work for another agency if, among other criteria, "the head of the agency decides ordered goods or services cannot be provided by contract as conveniently or cheaply by a commercial enterprise." (See app. III for policy letter.)

<sup>5</sup>See sec. 6.b (1). Elsewhere, OFPP-84-1 states that FFRDCs are brought into existence by the government "to meet some special research or development need which, at the time, cannot be met as effectively by existing in-house or contractor resources." (Sec. 5.C.(2)(a).) Also, according to the policy letter, sponsoring agencies should conduct a periodic "comprehensive review" of their use and need for a FFRDC, including "an assessment of the efficiency and effectiveness of the FFRDC in meeting the agency's needs." (Sec. 6.j.(3).) Taken together, these sections suggest that "effectiveness" is a relevant criterion for both establishing and maintaining an FFRDC.

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## Congressional Concerns About Differentiation

The problem of differentiation of work was a subject of two congressional hearings in 1987. The Subcommittee on Innovation, Technology, and Productivity, Senate Committee on Small Business, held hearings in April 1987 on whether the Department of the Army improperly requested the Los Alamos National Laboratory to do work that could have been done by private firms on a competitive basis. In May 1987, the Subcommittee on Oversight of Government Management, Senate Committee on Governmental Affairs, and the Subcommittee on Strategic Forces and Nuclear Deterrence, Senate Committee on Armed Services, held joint hearings on the need for and operation of the Strategic Defense Initiative Institute—a proposed FFRDC designed to provide technical support to the Strategic Defense Initiative Organization. The proposed institute was criticized by an industry representative as “unnecessary” and “fundamentally anti-competitive.”

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## Growth of FFRDCs

The 12 FFRDCs included in our review provided data on recent funding and staffing changes. As shown in table 1.1, most of the centers have experienced recent staffing and funding growth. More detailed information on each of the FFRDCs is contained in appendix I.

**Table 1.1: Summary of Information on Growth of FFRDCs**

FFRDC by category	Funding in constant 1985 dollars (millions)		Percent increase/ (decrease)	Research staff years		Percent increase/ (decrease)
	FY 1982	FY 1986		FY 1982	FY 1986	
<b>Research and development laboratories</b>						
Lincoln Laboratory	183.7	315.2	72	698.4	761.3	9
Lawrence Livermore						
National Laboratory						
DOE Growth	479.3	642.9	34	3,442.0	3,716.0	8
DOD Growth	52.5	187.0	256	214.0	646.0	202
Los Alamos						
National Laboratory						
DOE Growth	463.9	527.6	14	3,558.0	3,488.0	(2)
DOD Growth	26.2	173.3	561	206.0	864.0	319
<b>Study and analysis centers</b>						
Center for Naval Analyses	\$20.7	\$32.2	56	169.4	204.3	21
Institute for Defense Analyses	20.2	55.9	177	137.5	291.0	112
Logistics Management Institute	5.5	12.8	133	50.4	79.7	58
Rand-Arroyo Center <sup>a</sup>	4.2	9.9	136	30.6	63.6	108
Rand-National Defense Research Institute <sup>b</sup>	16.6	15.9	(4)	126.2	103.4	(18)
Rand-Project Air Force	16.4	17.2	5	149.5	125.0	(16)
<b>System engineering/system integration</b>						
The Aerospace Corporation	263.3	306.5	16	1,941.0	2,037.0	5
The MITRE Corporation/C <sup>3</sup> I Division	187.1	298.9	60	1,616.5	2,409.0	49
Software Engineering Institute <sup>c</sup>	5.0	9.0	80	16.8	49.0	192

<sup>a</sup>Reported for fiscal years 1985 and 1986.

<sup>b</sup>Reported for time period of Nov. 15, 1984, to Sept. 30, 1986.

<sup>c</sup>Reported for time period of Jan. 1, 1985, to Sept. 30, 1986.

## Objectives, Scope, and Methodology

In conducting the review directed by the 1987 Defense Authorization Act, we collected information on 10 FFRDCs sponsored by DOD and 2 centers sponsored by DOE that performed some work at DOD's request.<sup>6</sup> These two FFRDCs were included at the request of representatives of the Senate Committee on Governmental Affairs, Subcommittee on Oversight of Government Management. To address congressional concerns about the appropriateness of an FFRDC's work program, we collected information on the reason(s) why an FFRDC was requested to perform specific

<sup>6</sup>See appendix II for information about the DOD-sponsored FFRDCs.

research or development work. We examined 135 projects that were started during the period July 1 through December 31, 1986.<sup>7</sup> We obtained information on projects performed by the FFRDCs listed in table 1.2.

**Table 1.2: Scope of Data Collection at FFRDCs**

Type, sponsor, and name of FFRDC	Number of projects reviewed
<b>Research and development laboratories</b>	
DOD	
Lincoln Laboratory (Massachusetts Institute of Technology)	
DOE	
Lawrence Livermore National Laboratory (University of California)	1
Los Alamos National Laboratory (University of California)	1
<b>Study and analysis centers</b>	
DOD	
The Arroyo Center (RAND Corporation)	
Center for Naval Analyses (Hudson Institute)	3
Institute for Defense Analyses	1
Logistics Management Institute	2
National Defense Research Institute (RAND Corporation)	
Project Air Force (RAND Corporation)	
<b>System engineering/system integration centers</b>	
DOD	
Aerospace Corporation	
C <sup>3</sup> Division (MITRE Corporation)	1
Software Engineering Institute (Carnegie Mellon University)	

<sup>a</sup>No new projects were initiated during fiscal year 1987

<sup>b</sup>Aerospace provides, in part, ongoing general systems engineering for specific Air Force projects such as the Space Transportation System. Consequently, it was not possible to review discrete projects

<sup>c</sup>We did not attempt to identify new project starts because the system for justifying new starts was in the process of being substantially modified.

The projects listed in table 1.2 are not a statistically valid sample of all projects started during the period July 1 to December 31, 1986. Therefore, our observations relate only to the projects we sampled, and cannot be generalized to any other projects. For a few FFRDCs, we reviewed all or nearly all of the projects initiated during the July through December period. For example, we reviewed all the projects initiated at Lawrence Livermore National Laboratory and MITRE. We also reviewed

<sup>7</sup>Twelve of these projects placed with MITRE were initiated in fiscal year 1987, which began October 1, 1986.

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most of the projects started at the Arroyo Center and Center for Naval Analyses. For other FFRDCs, such as the Institute for Defense Analyses, Logistics Management Institute, and Los Alamos National Laboratory, we selected projects to show the types of work performed by them. For still other FFRDCs, such as Project Air Force and the National Defense Research Institute, we judgmentally sampled projects because their titles suggested broad subjects, or subjects not obviously connected to the FFRDC's stated mission, purpose, and general scope of effort.

Our work was performed in accordance with generally accepted government auditing standards.



# The Special Relationship Between FFRDCs and Their Sponsoring Agencies

FFRDCs enjoy a “special” relationship with their sponsors, and the FFRDCs we examined are considered by their sponsors to be flexible, convenient and exceptionally competent. But those virtues have a “price”: FFRDCs do not compete for work with private sector organizations and therefore, sponsors do not know for sure whether non-FFRDCs can do the work better, or at less cost. Thus, a dilemma associated with FFRDCs is how to retain their strengths while minimizing the price of a sponsors’ lack of information.

## Special Relationship Endorsed by Government Policy

According to the procurement commission’s study group on R&D, a special relationship, in part, means that FFRDCs

“enjoy a privileged status in obtaining internal information from the principal sponsoring agency, . . . and in some cases have access to proprietary information from other contractors as well.”

The commission’s report states

“the sponsoring agency has the responsibility for continuity of the center through funding its efforts and provides some degree of supervision of its activities.”

The OFPP letter (sec. 6.c.) incorporates these ideas and others, and states that a sponsoring agency’s relationship with an FFRDC should be long term in order to provide continuity that will

- attract high quality personnel to an FFRDC,
- encourage an FFRDC to maintain currency in its field(s) of expertise,
- maintain the FFRDC’s objectivity and independence,
- preserve the FFRDC’s familiarity with the needs of its sponsor(s), and
- provide a quick response capability.

A 1976 Defense Science Board report on DOD-sponsored FFRDCs noted, however, that this kind of relationship can create a problem for non-FFRDCs.

“A continuing, frank, intimate, and privileged working relationship between sponsor and performer is probably the single common attribute one can make for the [FFRDC] . . . This intimacy may also be the occasion for the largest body of criticisms about the [FFRDCs]. It gives the appearance of favoritism to the critic who feels outside the family when government procurement actions have eliminated him from an award. The critic construes the action as having been influenced by advice received by the procuring agent from an [FFRDC]; perhaps, too, he sees work being performed by the [FFRDC] for which he feels qualified.”

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## Attitudes About FFRDCs and Industry

DOD officials who are directly involved with the work performed by FFRDCs generally have very favorable attitudes about them, and in many cases, unfavorable ones about industry. Generally speaking, these officials believe that FFRDCs are especially competent and convenient, while industry is believed to sometimes lack objectivity and, because of lengthy government procurement procedures, to be relatively inconvenient.

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## Perceived Competence of FFRDCs and Industry

DOD officials who work with FFRDCs view them as centers of special and unique competence. They view industry, however, in less flattering terms. With respect to officials' views of industry, a few qualifications, however, should be noted. The reasons DOD officials gave us as to why an FFRDC was requested to do specific work in some cases centered only on the perceived excellence of a specific FFRDC. However, in other cases an FFRDC's excellence was contrasted with the perceived lack of excellence of industry. For example, we interviewed DOD officials about 59 projects started at the Center for Naval Analyses (CNA), Institute for Defense Analyses (IDA), and Logistics Management Institute (LMI) during the July to December 1986 period.<sup>1</sup> These projects represented 44 percent of the 135 projects we selected, and 60 percent of the projects we selected that were being done by DOD-sponsored FFRDCs. DOD officials specifically contrasted their favorable views of FFRDCs with unfavorable views of industry in 40 of 59 cases (68 percent). We did not, however, interview officials who had little or no experience with FFRDCs, but had considerable experience contracting work with industry. Some of the officials we interviewed have had experience monitoring or placing work with FFRDCs and industry, but our interviews were only about work placed with FFRDCs.

The image these officials have of FFRDCs and industry is not especially complex. They tend to view both in nearly absolute terms. Industry is generally perceived by them as not very well informed about the structure and mission of DOD agencies and military departments, as well as the specific subjects that FFRDCs are asked to address. DOD officials complained that industry is low on the "learning curve," which they said adversely affects the time it takes for industry to complete a task. For example, officials interviewed about projects done by CNA, IDA, LMI, and who expressed an unfavorable view of industry (40 projects), mentioned this as a problem in 25 of 40 projects (62 percent).

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<sup>1</sup>We actually examined 67 projects, but 8 were initiated by an FFRDC, and thus are not relevant to the discussion in this part of the report.

Industry's competence also was questioned by DOD officials because of a perceived lack of objectivity. Many of the officials we interviewed, who expressed an unfavorable opinion of industry (40 projects), believe that industry is not objective because it tends to tell DOD what it believes DOD wants to hear. Officials we interviewed about CNA, IDA, and LMI projects mentioned this as a problem in 23 of 40 projects (57 percent).

In sharp contrast to these views, DOD officials believe that FFRDCs

- possess a wealth of experience and knowledge,
- are their sponsoring agency's "corporate memory," and
- perform the role of "honest brokers" who are able to provide their sponsors with unbiased information that is relevant to policy-making.

FFRDCs' work is also viewed broadly as highly objective and independent. More narrowly, FFRDCs' competence is linked by DOD officials to their possession of special or unique resources such as an expert, data base, modeling capability, or equipment. A perception of competence based on these kinds of factors was especially cited by DOD officials who placed work at Los Alamos and Lawrence Livermore National Laboratories that are sponsored by DOE.

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### Perceived Convenience/ Flexibility of FFRDCs and Industry

The 1984 Competition in Contracting Act states that the head of an agency, in contracting a procurement for property or services, "shall obtain full and open competition through the use of competitive procedures," unless it is determined that excluding a particular source

"would be in the interest of national defense in establishing or maintaining an essential engineering, research, or development capability to be provided by an educational or other non profit institution or a federally funded research and development center." (Underscoring added.)

The 1976 Defense Science Board report on FFRDCs mentioned previously noted that

"it would be difficult to conclude that at some time, under some circumstances, a government procuring activity would not take advantage of the possibility of short-cutting procedures to place perhaps a time-critical study at an [FFRDC] activity for convenience. Much more likely, however, is the fact that the total environment of the [FFRDC] body of intimate knowledge and its corporate memory of the Government's experience in a given field or area of activity make it the proper choice for some sensitive, time-urgent, or background-peculiar study before industrial or other performers can be included."

The competition act provides added support for using convenience or flexibility as a factor in FFRDC procurement because the exemption from “full and open competition” provides statutory support for an FFRDC’s special relationship with its sponsor, and convenience or flexibility are part of that relationship.

As noted earlier, under the policy letter, an element of a sponsoring agency’s special relationship with an FFRDC is the ability of an FFRDC to “provide a quick response capability.” According to some of the officials we interviewed, FFRDCs are convenient or flexible in the sense that sponsors can start or alter an FFRDC’s work without using what they believe are cumbersome administrative procedures. For example, officials we interviewed about CNA, IDA, and LMI projects (59 projects) specifically mentioned flexibility as a positive attribute of FFRDCs in 17 of 59 projects (29 percent).

Procurement from industry, on the other hand, is subject to the competitive procedures established by law and regulations. Many DOD officials view the time and effort it takes to make a competitive procurement as a barrier to placing some work with industry.<sup>2</sup> DOD officials we interviewed about CNA, IDA, and LMI projects mentioned this as a problem in 20 cases (34 percent). In short, many of the DOD officials we interviewed view working with FFRDCs to be relatively trouble free.

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## Use of Special Relationship: Justifying FFRDC’s Work

As noted in chapter 1, the differentiating criterion in the OFPP policy letter is relative effectiveness; however, effectiveness is not explicitly defined. Rather, FFRDCs are defined in terms of their special relationship with their sponsors. FFRDCs are effective partly because they have a special relationship with their sponsoring agency, and generally only FFRDCs can have such a relationship. The elements of such a relationship are logically related to effectiveness because such elements as flexibility and familiarity with sponsor’s needs presumably make it easier for an FFRDC to do its job, thus increasing the probability that the goals of a specific project will be met. This is because a sponsor’s obligation to support its FFRDC over time at a level of activity sufficient to acquire and retain technical expertise reduces uncertainty and risk for an FFRDC. Industry, in contrast, operates in a less certain, and therefore, riskier

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<sup>2</sup>In our report, *Procurement: Better Compliance With Competition in Contracting Act is Needed* (GAO/NSIAD-87-145, August 1987), we concluded that the act’s effect on procurement processing times is not yet clear.

environment. Consequently, FFRDCs, by definition and design, are supposed to be more effective than non-FFRDCs which, nevertheless, may have the expertise to meet the same special research or development needs that FFRDCs are meeting. This point of view was specifically noted by officials of LMI. They justify FFRDCs' work in terms of a "special working or operating relationship," and note that

"It [is] readily clear that no FFRDC is unique in its knowledge of any subject area and that none is granted security clearances that other organizations cannot get. A FFRDC is necessary for a very small percentage of the work which should be performed outside the Government because it can work with its sponsor in ways that others cannot."

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### DOD's Regulations Concerning FFRDCs

DOD did not issue departmentwide FFRDC regulations based on OFPP's policy letter. The Air Force and Army, however, have issued regulations concerning some of the FFRDCs they sponsor. Air Force regulations apply to MITRE, Project Air Force, and Aerospace Corporation, but not Lincoln Laboratory and Software Engineering Institute (SEI), which it also sponsors. The Army's regulation applies to Arroyo Center.

The Air Force and Army regulations contain general policy statements on the need to avoid competition with industry, or the government's own R&D facilities.<sup>3</sup> The Air Force regulation that applies to MITRE states that

"tasks to be accomplished by MITRE can be assigned only when the role is appropriate. MITRE will not be used if a Government capability exists or if industry can do the job effectively and without conflict of interest." (Underscoring added.)

The regulation that applies to Aerospace states that

"prior to allocation of Aerospace resources, a determination must be made by the requesting activity . . . indicating that . . . industrial contractors cannot perform the required effort effectively . . ." (Underscoring added.)

The Army regulation states that

"Arroyo Center will undertake projects for which it has special competence or capabilities that do not exist in the Army in-house analytical organizations or that are inappropriate for in-house performance."

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<sup>3</sup>This generalization does not apply to the Air Force regulation (AFR 20-9) on Project Air Force

Air Force regulations distinguish FFRDC from non-FFRDC related work on the basis of the relative effectiveness of an FFRDC's special relationship with its sponsor. Air Force regulations on the use of MITRE and Aerospace are similar. MITRE is sponsored by the Air Force Systems Command's Electronic Systems Division, and Aerospace by the Systems Command's Space Division. The regulations contain numerous criteria that the Air Force is suppose to consider when it decides to place work at these FFRDCs.<sup>4</sup> The regulations, however, do not describe how these criteria should be used when making such a decision. Thus, we presume that work for MITRE and Aerospace can be justified if only one of the factors is met. We reviewed 12 projects placed at MITRE and found that they were justified by MITRE and Air Force officials in terms of one or more of the regulatory criteria.

Two of the criteria concern the FFRDC's expertise or ability to meet a special need, namely the "need for diversified skills," and the need for an "outstanding specialist in specific fields." With respect to the second of these two factors, the regulations state that

"industry may also have such outstanding specialists and when this situation exists, appropriate tasks will be assigned to industry, not to [MITRE or Aerospace] simply because they are convenient."

The other criteria, in effect, focuses on the relative effectiveness of MITRE or Aerospace to meet a special need: these two FFRDCs arguably are more effective than non-FFRDCs because, unlike industry, they have access to special facilities and special information such as intelligence, proprietary, and Air Force planning information. Work placed with MITRE can also be justified on the basis of a need for a fast response. Finally, work placed with MITRE can be justified to establish, maintain, augment, and update a technology base that requires in part, according to the regulation, access to all Systems Command programs. All of these factors are an inherent part of MITRE and Aerospace's special relationship with its Air Force sponsor.

The Army regulation on the placement of work at the Arroyo Center, emphasizes its special relationship with the Army and, therefore, Arroyo's relative effectiveness over non-FFRDCs. Placing work at Arroyo

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<sup>4</sup>Electronic Systems Division and Space Division regulations predate the OFPP policy letter. The regulations that apply to MITRE were revised in May 1983, and contain 13 criteria to determine if work should be assigned to it. The regulations that apply to Aerospace were last issued in February 1978 and contain 11 similar criteria. The regulation that applies to Project Air Force does not contain criteria on the placement of work.

is justified under the regulation because it can do long-term analysis, provide "special quick response support," and have access to proprietary and restricted information. Work can also be justified on the basis of Arroyo's competence in specific fields and its objectivity. Like the Army's regulations on the placement of work at MITRE and Aerospace, the Army's regulation does not indicate how these factors should be used when deciding to place work at Arroyo.

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### Dilemma Posed by Special Relationship and a Potential Way to Address It

Industry representatives believe that a systematic way to distinguish FFRDC from non-FFRDC work on a project-by-project basis is to require FFRDCs and industry to compete for the government's research or development work under competitive contracting procedures. However, this proposal would alter the nature of an FFRDC's special relationship with its sponsor by subjecting FFRDCs to the uncertainties of the market place. Because FFRDCs are defined in terms of such a relationship, acceptance of this idea would be tantamount to abolishing FFRDCs as an alternative way of meeting the government's research or development needs.

In fact, there may be no systematic way to distinguish FFRDC work from non-FFRDC work on a project-by-project basis or task-by-task basis without altering the FFRDC concept as it is defined by the policy letter, agency regulation, and custom. A consequence of establishing an FFRDC is that the sponsoring agency cannot be sure whether the specific work its FFRDC is doing could be done better and/or at less cost by industry. This is the uncertainty that accompanies decisions to place work at FFRDCs, although the professional knowledge of alternatives to FFRDCs by government and FFRDC officials reduces this uncertainty somewhat. Ultimately, only full and open competition between all relevant organizations (FFRDC and non-FFRDC alike) could be expected to provide the government with assurance that it is getting the best work available for the best price. The government necessarily forgoes this assurance when it establishes an FFRDC. However, as discussed below, the use of Broad Agency Announcements may offer a way to minimize the sponsor's uncertainty.

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Use of Broad Agency  
Announcements to  
Increase Information  
About Non-FFRDC  
Capabilities

As noted earlier, OFPP's policy letter states that,

"Agencies will rely, to the extent practicable, on existing in-house and contractor sources for satisfying their special research or development needs."<sup>5</sup>

Therefore, when determining how DOD-sponsored FFRDCs can best meet DOD's research and development needs, DOD officials should make a reasonable effort to determine the relative capabilities of industry and other non-FFRDCs. A Broad Agency Announcement could be used to solicit and evaluate industry's support of a sponsoring agency's proposed research program of its FFRDCs.

Proposed additions to the Federal Acquisition Regulations would define such announcements as

"a general announcement of an agency's research interest including criteria for selecting proposals and soliciting the participation of all offerors capable of satisfying the government's needs."

While this definition is nearly identical to the current definition, the proposed regulations also note that such announcements are to be used for the "acquisition of basic and applied research and that part of development not related to the development of a specific system or hardware procurement." This language is important to the use of announcements because current regulations mention announcements only in the context of "basic research," and most DOD-sponsored FFRDCs do not do basic research.

Broad Agency Announcements are currently used by DOD agencies to invite proposals for research, and one of the FFRDCs we examined — Lawrence Livermore National Laboratory—routinely responds to them. We evaluated 17 projects placed with Livermore and 6 (35 percent) were started in response to such announcements. For example, in November 1986 the Air Force Office of Scientific Research issued an announcement inviting proposals for basic science research in six general areas, one of which was "mathematical and information sciences." This area was subdivided by the announcement into 10 areas, including "computer science," with emphasis on 4 topics, including parallel processing. Livermore responded to the announcement with a proposal to conduct research on a specific method for parallel processing that the Office of Scientific Research accepted.

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<sup>5</sup>See sec. 6a of the policy letter.



If an FFRDC's research program were the subject of a Broad Agency Announcement, the sponsoring agency could systematically increase its knowledge about the work non-FFRDCs do. In short, the procedures associated with such announcements could be a relatively informal and expeditious way to solicit proposals from industry in support of an FFRDC's proposed research plan because (1) they are intended to apply broadly defined areas of interest (as opposed to specific projects) and (2) a sponsoring agency's selection criteria and response time for evaluating proposals are flexible.

The Arroyo Center's research plan for fiscal year 1987 offers an example of how the use of a Broad Agency Announcement for this purpose might work. The plan consists of five programs: (1) Policy and Strategy; (2) Force Development and Employment; (3) Readiness and Sustainability; (4) Manpower, Training, and Performance; and (5) Applied Technology. Each program, in turn, consists of various research areas.

If Arroyo Center's research plan were to be issued by the Army as a Broad Agency Announcement, it would invite interested parties to submit proposals on how they would specifically address any of the research areas of the Arroyo Center program. Any submissions would be evaluated by the Army in terms of how well they support Arroyo Center's research programs. The objective of this procedure would be to give the Department of the Army systematic information about the relative capabilities of any non-FFRDCs that might submit proposals.<sup>6</sup>

Procedures using Broad Agency Announcements and Requests For Proposals are ways to achieve "full and open competition" in procurement under the competition act. But FFRDCs are prohibited under OFPP's policy letter from "competing with any non-FFRDC concern in response to a Federal agency formal Request For Proposal for other than the operation of an FFRDC." (Sec. 6.c.(1)(c).) While this prohibition does not apply to the use of announcements if the language of the policy letter is interpreted literally, the exemption from full and open competition in the competition act may apply.<sup>7</sup> However, using the exemption is based on an agency head's discretion, and can be waived.

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<sup>6</sup>See app. IV for an example of what a Broad Agency Announcement might look like using the Arroyo Center's research plan.

<sup>7</sup>The exemption in the competition act applies if an FFRDC is maintaining an "essential" R&D capability.

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## Conclusions

The government may be able to reduce the amount of assurance it forgoes without sacrificing the relatively informal and flexible relationship it has with its FFRDCs through the systematic use of Broad Agency Announcements to help evaluate the proposed work of FFRDCs in relation to what non-FFRDCs claim they can do.

Although sponsors would still be obligated to support and sustain a special relationship with their FFRDCs, the use of Broad Agency Announcements could provide them with a means of obtaining limited support for an FFRDC's research program from non-FFRDCs. The relative lack of information about non-FFRDCs' ability to meet a sponsor's special R&D needs could perhaps be lowered by using Broad Agency Announcements.

While the use of Broad Agency Announcements may foster some competition between FFRDCs and non-FFRDCs, its purpose is to develop a way a sponsor can assess whether some non-FFRDCs can collaborate meaningfully with FFRDCs to pursue a sponsor's research goals.

We did not ascertain whether non-FFRDCs would respond to the kind of Broad Agency Announcements described above nor did we estimate the potential effect of announcements on FFRDCs' research programs. Because of these uncertainties, we are recommending that Broad Agency Announcements be used on a test basis.

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## Recommendation

We recommend that the Secretary of Defense implement a program to test the use of Broad Agency Announcements to determine whether the use of such announcements improve its ability to assess whether some non-FFRDCs can collaborate meaningfully with FFRDCs to pursue DOD's research goals.

If Broad Agency Announcements prove useful, they should be made a permanent part of the FFRDC program.

# Meaning of Differentiation in Policy Is Unclear

The principle of differentiation is an important but elusive part of the policy on FFRDCs. Evaluating whether the establishment and use of FFRDCs is in compliance with this principle is complicated by its lack of precision. The imprecision, however, is understandable given sponsors' goals for their FFRDCs. Sponsors want their FFRDCs to be independent, capable, flexible, and not subject to detailed rules about when and when not to use them.

## Criteria for Establishing FFRDCs

Since the policy letter became effective on June 11, 1984, 2 of the 12 FFRDCs we examined were established. They are the Logistics Management Institute (LMI), and the Software Engineering Institute (SEI). The policy letter states that in establishing an FFRDC, the sponsoring agency shall ensure that:

- Existing alternative sources for satisfying agency requirements cannot effectively meet the special research or development needs.
- The purpose, mission, and general scope of effort of the FFRDC is stated clearly enough to enable differentiation between work that should be performed by an FFRDC and that which should be performed by a non-FFRDC.
- At least three notices are placed over a 90-day period in the Commerce Business Daily and The Federal Register indicating the agency's intention to sponsor an FFRDC and the scope and nature of the effort to be performed by an FFRDC.
- Sufficient government expertise is available to adequately and objectively evaluate the work to be performed by an FFRDC.
- Controls are established to ensure that the costs of the services being provided to the government are reasonable.
- The responsibility for capitalization of an FFRDC has been defined in such a manner that ownership of assets may be readily and equitably determined when the FFRDC relationship with its sponsor(s) is terminated.

The meanings of most of these criteria are reasonably straightforward. However, the meanings of the first two—assessing alternatives and differentiating work—are less clear.

## Criterion Requiring Assessment of Alternate Sources

A proposed FFRDC, by definition, will have a special relationship with its sponsor once it is established, and consequently, ought to be more effective than non-FFRDCs. When a new FFRDC is being considered, a finding that a non-FFRDC can meet the same special research or development needs as a proposed FFRDC is not a reason under the OFPP policy letter to

preclude the establishment of an FFRDC because the emphasis in this criterion is not on the absence or presence of a capability (or technical expertise) to meet a special need, but on the relative effectiveness of a proposed FFRDC. For this reason, the assessment of existing alternatives is biased in favor of a proposed FFRDC, and thus, not very meaningful unless the alternative is an existing FFRDC.

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### Alternatives to SEI

A "blue-ribbon" panel from industry and academia considering the need for SEI concluded in a December 1983 report that "no existing organization was found to be entirely adequate to assume Institute responsibilities." It recommended establishing a dedicated, nonprofit corporation associated with one or more leading universities and at least initially organizationally and geographically centralized. The panel supported its conclusion with the following observations:

"Organization under Government auspices was ruled out for two reasons: first, because of the need to offer highly competitive compensation to senior professionals, to maintain stable high-level executive positions over time and to ensure unconstrained interchange between Government, industry and university people; and second, because the time-consuming nature of Government processes conflicts with the need for a functioning Institute in the shortest possible time. Private for-profit corporations entail tax complications and conflict-of-interest exposures. Joint venture approaches have similar legal exposures compounded by anti-trust considerations."

On March 12, 1984, the Under Secretary of Defense for Research and Engineering directed the Air Force to begin competitive procurement to establish SEI as a university affiliated FFRDC.

SEI's affiliation was the first to be chosen competitively. The Request for Proposal, issued on June 22, 1984, was sent to 47 potential offerors, of which 7 submitted proposals. These proposals were evaluated in technical, management, and cost areas with the technical and management areas considered more important than cost. The Under Secretary of Defense for Research and Engineering selected Carnegie-Mellon University to administer SEI.

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### Alternatives to LMI

LMI was incorporated as a private nonprofit corporation on October 3, 1961, and has served DOD continuously since then in logistics and acquisition research. While not formally designated as an FFRDC when it was established, LMI's Certificate of Incorporation and by-laws were patterned after existing DOD-sponsored FFRDCS.

Notices of intent to establish LMI as an FFRDC were published on August 2, September 11, and October 26, 1984. Only one firm expressed an interest in competing with LMI for designation as an FFRDC. This firm's capabilities were evaluated, and it was found to be insufficiently qualified to warrant a formal competition with LMI.

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### Criterion Requiring Differentiation of FFRDC From Non-FFRDC Work in Mission Statements

Assessing DOD's compliance with the requirement to distinguish between FFRDCs and non-FFRDCs in an FFRDC's purpose, mission, and scope of effort description is complicated because at least two interpretations of the criterion are possible—one "broad"; the other "narrow." These interpretations are discussed in the following sections in terms of LMI's mission statement, which we are using for illustrative purposes. The same distinctions, however, apply to SEI and other FFRDCs. LMI's mission is to advise the Secretary of Defense on policy and procedures for acquisition and logistics. The Institute's scope of effort is procurement, logistics, material management, manpower support, and other related areas. SEI's mission is to

"accelerate the reduction to practice of modern software engineering techniques and methods and shall promulgate [their use] throughout the mission—critical systems community"

SEI's scope of effort, in part, is to (1) identify opportunities for "software technology insertion" and (2) assess the potential of software technology that could aid the development and evaluation of mission-critical software.

### Broad Interpretation

According to the broad interpretation, LMI legitimately can do all types of work related to such areas as material management and manpower support.<sup>1</sup> Taken as a whole, these areas represent a necessary and sufficient differentiation from other categories of work, such as test and evaluation, which LMI should not do. Consequently, under this interpretation, LMI's sponsor is complying with the policy letter's requirement that it distinguish LMI's work from non-FFRDCs because it has specified LMI's broad areas of presumed special expertise.

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<sup>1</sup>The policy letter does state that "[a]ctivities primarily engaged in routine quality control and testing routine service activities, production, mapping and surveys, and information dissemination . . . are specifically excluded from FFRDC designation." (See sec. 5.c.(1)(a).)

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### Narrow Interpretation

According to the narrow interpretation, the sponsoring agency should differentiate work between that which is appropriate for LMI to do, and that which is appropriate for non-FFRDCs to do. The narrow definition would require that routine research needs be distinguished from special research needs within each category of LMI's statement of scope of effort. Under this interpretation, LMI's sponsor is not complying with the policy letter unless broad research areas, such as "material management," are segmented into areas that are appropriate for LMI and non-FFRDCs.

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### Criteria for Using FFRDCs

Under the policy letter, a contract is the preferred instrument under which an FFRDC does work for its sponsor, but sponsoring agreements also may be used. As a "mandatory requirement," such contracts (and agreements),

"will 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." (Underscoring added.) (See sec. 6c.(1)(a).)

The distinction between "broad" and "narrow" interpretations of the differentiation requirement in mission statements is especially relevant in determining whether specific projects are relatable to an FFRDC's mission. We examined 135 projects (see table 1.2) and compared information about them with the mission statements of the appropriate FFRDC using the broad interpretation discussed previously. On the whole, a "broad" interpretation seems more appropriate than a narrow one. While there is a legitimate reason for concern that such statements could be so broad as to exclude almost nothing, trying to distinguish FFRDC from non-FFRDC work within a research area could lead to endless terminological disputes about what constitutes "unique," "special," "essential," or "routine" work. The ambiguous language of the policy letter and the competition acts means that sponsors have a wide latitude in defining the appropriateness of their FFRDCs' work.

Industry representatives state that some FFRDCs are doing work unrelated to their missions. Based on the general nature of most mission statements (see examples below), and the "broad interpretation" discussed above, the projects we evaluated were generally relatable to the FFRDC's statements of mission, purpose, and general scope of effort. Mission statements of three FFRDCs are noted below. We chose them to show mission statements from a research and development laboratory, study

and analysis center, and a systems engineering center. The statements are from contracts and other documents.

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### Lincoln Laboratory

The mission of the laboratory is to carry out a program of research and development pertinent to national defense with particular emphasis on advanced electronics.

Technical work areas include radar and optical sensors, measurements and systems; satellite communications; signal design and processing; lasers; solid-state devices; digital technology, circuitry, and data systems; tactical and strategic systems and countermeasures; and air traffic control systems. The programs are grouped under the major mission areas of Strategic Offense and Defense, Military Satellite Communications, Space Surveillance, High Energy Laser Technology, Surface and Air Surveillance, and Advanced Electronics.

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### The Arroyo Center

The broad objectives of the work to be performed by Arroyo are to (1) provide expert and independent interdisciplinary analytical research capabilities covering a broad range of relevant specialties, (2) enhance mechanisms for technology transfer among Department of the Army components, (3) further institutionalize capabilities for analysis and integration of Army issues that cut across the responsibilities of individual Department of the Army components, (4) recommend to the U.S. Army preferred methods, techniques, and instrumentalities for the development and implementation of Army policies, and (5) integrate Department of the Army policy issues with other DOD agencies.

A wide range of activities is expected to be conducted in the following areas: (1) strategy, (2) force design and structure, (3) force operations, (4) readiness and support infrastructure, (5) applied science and technology applications, (6) methodological development, (7) manpower, training, and performance, (8) threat assessment, and (9) Army policies and doctrine.

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### MITRE Corporation, C3I Division

The primary mission of the MITRE Corporation is to provide general systems engineering, engineering support, and system integration support to the Air Force and to assist the Electronic Systems Division (ESD) in applying the whole spectrum of science and technology to the continuing advancement of military electronic systems.

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Such support encompasses the following major areas:

- systems acquisition,
- system research and planning,
- research and experimentation,
- source selection participation, and
- administrative support.

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### Concerns About Scope of MITRE's Work

Occasionally, disagreements arise over requests for work that FFRDCs (and their sponsors) consider to be inappropriate to an FFRDC's mission. MITRE's work for the Federal Bureau of Investigation (FBI) is a case in point, and is cited by industry representatives as an example of a sponsor "unreasonably" enlarging an FFRDC's mission.

In May 1985, the FBI wrote to MITRE's sponsor, the Air Force's ESD, that it wanted to use MITRE's system analysis and engineering services for a 2-year study of the FBI's National Crime Information Center system. The FBI stated in its letter that the appropriate congressional oversight committees and the Department of Justice had approved its procurement strategy of using an FFRDC, which it had narrowed down to MITRE. ESD's Senior Technical Director told us that the FBI mistakenly believed that MITRE Corporation's METREK Division was an FFRDC, when in fact only its C3I Division is an FFRDC.<sup>2</sup> ESD concluded in June 1985 that the proposed work was not appropriate for the C3I Division and rejected the FBI proposal. ESD pointed out, however, that the work was appropriate for METREK.

The FBI appealed ESD's decision to the Assistant Secretary of Defense for C3I. In a July 1985 memorandum to the Assistant Secretary of the Air Force (Research, Development and Logistics), the Assistant Secretary of Defense for C3I stated that although the work was outside the traditional definition of C3I, the national security benefits to DOD and the U.S. government were significant and should take precedence over these concerns. The Assistant Secretary believed that the FBI's proposed work met the national security supportive criteria of a 1978 Memorandum of Understanding between the Air Force and MITRE. Under this memorandum, MITRE may perform work for non-DOD agencies (1) if it makes a "direct contribution" to national security in communications, command, and control programs or (2) supports national security such as,

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<sup>2</sup>C3I refers to command, control, communications, and intelligence.



"work that is specifically justified by the U.S. Government in part on national security grounds; including, but not limited to, efforts for the Departments of Justice and State."

In October 1985, the Assistant Secretary of the Air Force (Research, Development and Logistics), based on a decision by the Assistant Secretary of Defense for C3I, approved using the C3I Division to support the FBI's project through a direct contract between the FBI and the MITRE Corporation.

The controversy over the appropriateness of the FBI's proposal was preceded by a March 1985 memorandum from ESD to non-Air Force sponsors of MITRE's work, which noted that ESD is

"concerned that much of the work in support of non-Air Force agencies is drifting away from MITRE's principal mission of general systems engineering to studies and analysis and task engineering activity. This trend is a concern since it brings into question the degree to which we are complying with the guidelines for placing work with MITRE that only MITRE should do."

To ensure that project related justifications receive high level management review, ESD further stated in the memorandum that it would not approve the start of any non-Air Force project unless the sponsor submits a Technical Objectives and Plan document and a flag rank officer or senior official signs the following certification:

"I hereby certify that (1) the work described by the Technical Objectives and Plans [TO&P] document for the MITRE project identified above meets the criteria for assignment of work to the C3I Division of the MITRE Corporation as prescribed by the provisions of ESD Regulation 80-1, dated 25 May 1983, (2) there are no other known contractors with the experienced personnel, technical objectivity, and capabilities necessary to perform this effort, (3) acquisition of this effort is in full compliance with applicable procurement statutes, policies and regulations for non-competitive actions, (4) this action is not being taken in order to avoid competition, (5) that only MITRE can satisfy the Government's requirements for this particular effort, and (6) it is not feasible to forego the work without acceptable delay in work vital to the national defense."

The recommendation on Broad Agency Announcements in chapter 2 could, if implemented, provide ESD with systematic information in support of the above certification. We recognize, however, that there may be reasons particular to systems engineering FFRDCs such as MITRE that would make the use of announcements impractical. In the absence of Broad Agency Announcements, the above certification is a reasonable

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way to involve senior ESD personnel in decisions about placing non-Air Force-sponsored work at MITRE.

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## Conclusions

In this chapter we examined the principle of differentiation in the policy letter in two contexts: the establishment and use of FFRDCs. In order to assess compliance with policies in these areas, we had to make a "broad" or "narrow" interpretation of the differentiation requirement in mission statements. For the reasons cited above, we assessed compliance using a broad interpretation, and found that (1) LMI and SEI were established in accordance with policy and (2) the projects we reviewed were relatable to the FFRDCs' mission statements.

# Growth of FFRDCs

The following tables show for each of the 12 FFRDCs included in our review changes in their funding and staffing. While most of them have experienced growth, their growth rates varied widely. The growth of DOD's work at two DOE-sponsored national laboratories is especially noteworthy.

## R&D Laboratories

**Table I.1: Lincoln Laboratory Funding History**

Dollars in millions

Fiscal years	Funding <sup>a</sup>		Increase from prior year		Total increase since FY 1982	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent	Constant 1985 dollars	Percent
1982	\$164.8	\$183.7	\$	.	\$	.
1983	225.1	241.5	57.8	31	.	.
1984	247.5	255.7	14.2	6	.	.
1985	279.5	279.5	23.8	9	.	.
1986	323.7	315.2	35.7	13	131.5	72

<sup>a</sup>Stated as costs incurred by Lincoln Laboratory for internal operating expenses and procurement costs. These expenses include direct wages and salaries, employee benefits, travel, laboratory services, and overhead. Procurement costs include the following categories: chemicals, equipment, materials, real property, services, and utilities

**Table I.2: Lincoln Laboratory Staff Years**

Fiscal years	Research staff years <sup>a</sup>	Increase from prior year		Total increase since FY 1982	
		(amount)	(percent)	(amount)	(percent)
1982	698.4	.	.	.	.
1983	737.1	38.7	5.5	.	.
1984	740.7	3.6	0.5	.	.
1985	745.0	4.3	0.6	.	.
1986	761.3	16.3	2.2	62.9	9

<sup>a</sup>Stated as member of technical staff. A member of technical staff is a professional staff member performing technical effort directly related to programs at Lincoln Laboratory. Does not include staff who provide support services

**Appendix I  
Growth of FFRDCs**

**Table I.3: Lawrence Livermore National Laboratory Funding History**

Dollars in millions

Fiscal years	DOE funding <sup>a</sup>		DOE increase from prior year <sup>b</sup>		DOD funding <sup>a</sup>		DOD increase from prior year <sup>c</sup>	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent
1982	\$429.9	\$479.3	\$ •	•	\$47.1	\$52.5	\$ •	•
1983	455.7	488.9	9.6	2	55.9	60.0	7.5	14
1984	557.3	575.7	86.8	18	64.3	66.4	6.4	11
1985	623.1	623.1	47.4	8	109.3	109.3	42.9	65
1986	660.3	642.9	19.8	3	192.1	187.0	77.7	71

<sup>a</sup>Stated as costs incurred, including salaries, supplies, travel, equipment, major procurement, and indirect costs that cannot be assigned to specific cost objectives.

<sup>b</sup>DOE increase since FY 1982, \$163.6 million, 34 percent.

<sup>c</sup>DOD increase since FY 1982, \$134.5 million, 256 percent.

**Table I.4: Lawrence Livermore National Laboratory Staff Years**

Fiscal years	DOE research staff years <sup>a</sup>	DOE increase/decrease from prior year <sup>b</sup>		DOD research staff years <sup>a</sup>	DOD increase from prior year <sup>c</sup>	
		(amount)	(percent)		(amount)	(percent)
1982	3,442	•	•	214	•	•
1983	3,506	64	2	255	41	19
1984	3,635	129	4	342	87	34
1985	3,765	130	4	493	151	44
1986	3,716	(49)	(1)	646	153	31

<sup>a</sup>Stated as full-time equivalents that include those Livermore professional or support staff who make direct charges to a program, based on the average employee working 1,784 hours per year.

<sup>b</sup>DOE increase since FY 1982, 274 staff years, 8 percent.

<sup>c</sup>DOD increase since FY 1982, 432 staff years, 202 percent.

Study and Analysis Centers

**Table I.7: Arroyo Center Funding History**

Dollars in millions

Fiscal years	Funding <sup>a</sup>		Increase	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent
1985 <sup>b</sup>	\$4.2	\$4.2	\$ .	.
1986	10.2	9.9	5.7	136

<sup>a</sup>Stated as amount of contract awards plus modifications to contract.

<sup>b</sup>Arroyo was transferred to RAND in FY 1985. Data before FY 1985 not available.

**Table I.8: Arroyo Center Staff Years**

Fiscal years	Research staff years <sup>a</sup>	Increase (amount)	Increase (percent)
1985	30.6	.	.
1986	63.6	33.0	108

<sup>a</sup>Stated as member of technical staff, a measure of RAND-Arroyo professional staff effort applied to a project, not including indirect professional staff charges. Based on 226 working days per year for the average professional.

**Table I.9: Center for Naval Analyses Funding History**

Dollars in millions

Fiscal years	Funding <sup>a</sup>		Increase/decrease from prior year		Total increase since FY 1982	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent	Constant 1985 dollars	Percent
1982	\$18.6	\$20.7	\$ .	.	\$ .	.
1983	19.5	20.9	0.2	1	.	.
1984	19.5	20.1	(0.8)	(4)	.	.
1985	26.9	26.9	6.8	34	.	.
1986	33.1	32.2	5.3	20	11.5	56

<sup>a</sup>Stated as amount of contract awards.

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Growth of FFRDCs**

**Table I.5: Los Alamos National Laboratory Funding History**

Dollars in millions

Fiscal years	DOE funding <sup>a</sup>		DOE increase/decrease from prior year <sup>b</sup>		DOD funding <sup>a</sup>		DOD increase from prior year <sup>c</sup>	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent
1982	\$416.1	\$463.9	\$ .	.	\$23.5	\$26.2	\$ .	.
1983	453.6	486.7	22.8	5	32.6	35.0	8.8	34
1984	506.3	523.0	36.3	7	49.4	51.0	16.0	46
1985	544.8	544.8	21.8	4	93.9	93.9	42.9	84
1986	541.8	527.6	(17.2)	(3)	178.0	173.3	79.4	85

<sup>a</sup>Stated as costs incurred. The following major categories comprise costs incurred: salaries, fringe benefits, laboratory overhead, materials, and services.

<sup>b</sup>DOE increase since FY 1982, \$63.7 million, 14 percent.

<sup>c</sup>DOD increase since FY 1982, \$147.1 million, 561 percent

**Table I.6: Los Alamos National Laboratory Staff Years**

Fiscal years	DOE research staff year <sup>a</sup>	DOE increase/decrease from prior year <sup>b</sup>		DOD research staff year <sup>a</sup>	DOE increase from prior year <sup>c</sup>	
		(amount)	(percent)		(amount)	(percent)
1982	3,558	.	.	206	.	.
1983	3,570	12	0.3	254	48	23
1984	3,694	124	3.5	333	79	31
1985	3,765	71	1.9	573	240	72
1986	3,488	(277)	(7.4)	864	291	51

<sup>a</sup>Stated as full-time equivalent for scientific employees and other employees. Full-time equivalent is equivalent to one person working full time for 1 year or 261 days. A "scientific employee" is a professional employee engaged in technical work, R&D, or technical support. Other employees are support staff, including administrative staff, computer services staff, laboratory services staff, and general services staff.

<sup>b</sup>DOE decrease since FY 1982, 70 staff years, 2 percent.

<sup>c</sup>DOD increase since FY 1982, 658 staff years, 319 percent

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Table I.10: Center for Naval Analyses Staff Years

Fiscal years	Research staff years <sup>a</sup>	Increase/decrease from prior year		Total increase since FY 1982	
	(amount)	(amount)	(percent)	(amount)	(percent)
1982	169.4	•	•	•	•
1983	162.7	(6.7)	(4)	•	•
1984	166.5	3.8	2	•	•
1985	184.8	18.3	11	•	•
1986	204.3	19.5	11	34.9	21

<sup>a</sup>Stated as research man-years, includes consultants, but not technical, administrative, and support staff.

Table I.11: Institute for Defense Analyses Funding History

Dollars in millions

Fiscal years	Funding <sup>a</sup>		Increase from prior year		Total increase since FY 1982	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent	Constant 1985 dollars	Percent
1982	\$18.1	\$20.2	\$ •	•	\$ •	•
1983	22.4	24.0	3.8	19	•	•
1984	23.6	24.4	0.4	2	•	•
1985	42.8	42.8	18.4	75	•	•
1986	57.4	55.9	13.1	31	35.7	177

<sup>a</sup>Stated as amount of contract awards.

Table I.12: Institute for Defense Analyses Staff Years

Fiscal years	Research staff years <sup>a</sup>	Increase/decrease from prior year		Total increase since FY 1982	
	(amount)	(amount)	(percent)	(amount)	(percent)
1982	137.5	•	•	•	•
1983	148.5	11.0	8	•	•
1984	145.1	(3.4)	(2)	•	•
1985	216.6	71.5	49	•	•
1986	291.0	74.4	34	153.5	112

<sup>a</sup>Stated as man-years for institute professional staff, consultants, and subcontract staff doing research. does not include support staff

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**Table I.13: Logistics Management Institute Funding History**

Dollars in millions

Fiscal years	Funding <sup>a</sup>		Increase/decrease from prior year		Total increase since FY 1982	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent	Constant 1985 dollars	Percent
1982	\$4.9	\$5.5	\$ .	.	\$ .	.
1983	4.9	5.3	(0.2)	(4)	.	.
1984	6.5	6.7	1.4	26	.	.
1985 <sup>b</sup>	11.1	11.1	4.4	66	.	.
1986	13.2	12.8	1.7	15	7.3	133

<sup>a</sup>Stated as amount of contract awards.

<sup>b</sup>Institute established as an FFRDC in FY 1985.

**Table I.14: Logistics Management Institute Staff Years**

Fiscal years	Research staff years <sup>a</sup> (amount)	Increase/decrease from prior year		Total increase since FY 1982	
		(amount)	(percent)	(amount)	(percent)
1982	50.4	.	.	.	.
1983	62.1	11.7	23	.	.
1984	58.1	(4.0)	(6)	.	.
1985	69.9	11.8	20	.	.
1986	79.7	9.8	14	29.3	58

<sup>a</sup>Stated as charges for research and consultant man-years; does not include support staff.

**Table I.15: National Defense Research Institute Funding History**

Dollars in millions

Time period	Funding <sup>a</sup>		Decrease	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent
Nov. 15, 1984, to Nov. 14, 1985 <sup>b</sup>	\$16.6	\$16.6	\$ .	.
Nov. 15, 1985, to Sept. 30, 1986	16.3	15.9	(0.7)	(4)

<sup>a</sup>Stated as amount of contract awards plus modifications to contract.

<sup>b</sup>RAND commenced management of institute as an FFRDC in FY 1985.



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**Table I.16: National Defense Research Institute Staff Years**

Time period	Research staff years <sup>a</sup>	Decrease	
		(amount)	(percent)
Nov. 15, 1984, to Nov. 14, 1985	126.2	•	•
Nov. 15, 1985, to Sept. 30, 1986	103.4	(22.8)	(18)

<sup>a</sup>Stated as member of technical staff, a measure of total RAND-Institute professional effort applied to a project, including allocated indirect professional staff charges. Based on 226 working days per year for average professional

**Table I.17: Project Air Force Funding History**

Dollars in millions

Fiscal years	Funding <sup>a</sup>		Increase/decrease from prior year		Total increase since FY 1982	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent	Constant 1985 dollars	Percent
1982	\$14.7	\$16.4	\$ •	•	\$ •	•
1983	16.8	18.0	1.6	10	•	•
1984	18.8	19.4	1.4	8	•	•
1985	17.6	17.6	(1.8)	(9)	•	•
1986	17.7	17.2	(0.4)	(2)	0.8	5

<sup>a</sup>Stated as amount of contract awards

**Table I.18: Project Air Force Staff Years**

Fiscal years	Research staff years <sup>a</sup>	Decrease from prior year		Total decrease since FY 1982	
		(amount)	(percent)	(amount)	(percent)
1982	149.5	•	•	•	•
1983	146.3	(3.2)	(2)	•	•
1984	144.0	(2.3)	(2)	•	•
1985	140.6	(3.4)	(2)	•	•
1986	125.0	(15.6)	(11)	(24.5)	(16)

<sup>a</sup>Stated as member of technical staff, a measure of total RAND-Project Air Force professional effort applied to a project, including allocated indirect professional staff charges. Based on 230 working days per year for the average professional.

System Engineering/  
System Integration Centers

**Table I.19: Aerospace Corporation Funding History**

Dollars in millions

Fiscal years	Funding <sup>a</sup>		Increase from prior year		Total increase since FY 1982	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent	Constant 1985 dollars	Percent
1982	\$236.2	\$263.3	\$ .	.	\$ .	.
1983	261.9	281.0	17.7	7	.	.
1984	273.7	282.7	1.7	1	.	.
1985	298.2	298.2	15.5	5	.	.
1986	314.8	306.5	8.3	3	43.2	16

<sup>a</sup>Stated as amount of contract awards plus modifications to contract.

**Table I.20: Aerospace Corporation Staff Years**

Fiscal years	Research staff years <sup>a</sup>	Increase/decrease from prior year		Total increase since FY 1982	
		(amount)	(percent)	(amount)	(percent)
1982	1,941	.	.	.	.
1983	1,910	(31)	(2)	.	.
1984	1,925	15	1	.	.
1985	1,990	65	3	.	.
1986	2,037	47	2	96	5

<sup>a</sup>Stated as member of technical staff—defined as the direct efforts of scientists and engineers who perform professional level technical work and all required efforts of supporting technical and administrative personnel.

**Table I.21: MITRE C3I Funding History**

Dollars in millions

Fiscal years	Funding <sup>a</sup>		Increase from prior year		Total increase since FY 1982	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent	Constant 1985 dollars	Percent
1982	\$167.8	\$187.1	\$ .	.	\$ .	.
1983	204.4	219.3	32.2	17	.	.
1984	240.6	248.5	29.2	13	.	.
1985	263.1	263.1	14.6	6	.	.
1986	307.0	298.9	35.8	14	111.8	60

<sup>a</sup>Stated as negotiated contract awards.

Appendix I  
Growth of FFRDCs

Table I.22: MITRE C3I Staff Years

Fiscal years	Research staff years <sup>a</sup>	Increase from prior year		Total increase since FY 1982	
		(amount)	(percent)	(amount)	(percent)
1982	1,616.5	•	•	•	•
1983	1,848.3	231.8	14	•	•
1984	2,094.4	246.1	13	•	•
1985	2,245.5	151.1	7	•	•
1986	2,409.0	163.5	7	792.5	49

<sup>a</sup>Stated as member of technical staff—defined as the principal investigator, supporting technical and administrative assistants

Table I.23: Software Engineering Institute Funding History

Dollars in millions

Time period	Funding <sup>a</sup>		Increase	
	Then-year dollars	Constant 1985 dollars	Constant 1985 dollars	Percent
Jan. 1, 1985, to Oct. 31, 1985 <sup>b</sup>	\$5.0	\$5.0	\$ •	•
Nov. 1, 1985, to Sept. 30, 1986	9.2	9.0	4.0	80

<sup>a</sup>Stated as costs incurred, including costs of moving into, furnishing, and equipping office sites

<sup>b</sup>Software Engineering Institute was established as a new FFRDC in December 1984

Table I.24: Software Engineering Institute Staff Years

Time period	Research staff years <sup>a</sup>	Increase	
		(amount)	(percent)
Jan. 1, 1985, to Oct. 31, 1985 <sup>b</sup>	16.8	•	•
Nov. 1, 1985, to Sept. 30, 1986 <sup>b</sup>	49.0	32.2	192

<sup>a</sup>Stated as member of technical staff—defined as a professional scientist or engineer actively and directly engaged in performing software engineering technology transition, research, education, project support to the various services, and planning.

<sup>b</sup>Software Engineering Institute was established as a new FFRDC in December 1984

# Information on DOD-Sponsored FFRDCs

<b>FFRDC by category</b>	<b>Principal sponsor</b>	<b>Contractor</b>	<b>Date established</b>	<b>Work plan approval</b>	<b>Independent research</b>
<b>Study and Analysis Centers</b>					
Center for Naval Analyses	Navy and Marine Corps	Hudson institute	1942	Plan negotiated with sponsor	Maximum 15 percent established by contract
Institute for Defense Analyses	Ofc. Sec. of Defense, Joint Chiefs of Staff, and Defense agencies	Institute for Defense Analyses	1956	Plan negotiated with sponsor	1.5 percent of budget based on Defense Acquisition Regulations
Logistics Management Institute	Asst. Sec. of Defense/ Manpower, Installations, Acquisitions/Logistics, and Defense agencies	Logistics Management institute	1984	Plan negotiated with sponsor	Agreement from sponsor for about 5 percent, but not to exceed 10 percent
Rand-Arroyo Center	Army	The Rand Corporation	1984	Annual plan approved by advisory committee after sponsor/ contractor interaction	Up to 25 percent permitted by Army regulation
Rand-National Defense Research Institute	Office of Secretary of Defense/Organization of Joint Chiefs of Staff	The Rand Corporation	1983	Annual plan approved by advisory committee after sponsor/ contractor interaction	Permitted by OSD/ OJCS regulation and has totalled annually about 10-12 percent
Rand-Project Air Force	Air Force	The Rand Corporation	1946	Annual plan approved by advisory committee after sponsor/ contractor interaction	Permitted by Air Force regulation and has totalled annually about 10-12 percent
<b>Systems Engineering/ Systems Integration</b>					
The Aerospace Corporation	Air Force Space Division	The Aerospace Corporation	1960	Plan negotiated with sponsor	Contractual fixed fee can be used for research
The MITRE Corporation/ C3I Division	Air Force	The MITRE Corporation	1958	Plan negotiated with sponsor	2.5 percent in budget and 3 percent for Mission-Oriented Investigations & Experiments
Software Engineering Institute	Air Force	Carnegie Mellon University	1984	One-and five-year work plans approved by sponsor	10 percent in negotiated contract
<b>Research and Development Laboratory</b>					
Lincoln Laboratory	Air Force	M.I.T.	1951	Annual plan approved by advisory committee after discussion with sponsor	Negotiated with contractor separately from contract

# OFPP Policy Letter 84



EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

OFFICE OF FEDERAL  
PROCUREMENT  
POLICY

APR 4 1984

OFPP POLICY LETTER 84-1

TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS

SUBJECT: Federally Funded Research and Development Centers

1. Purpose. This policy letter establishes Government-wide policies for the establishment, use, periodic review, and termination of the sponsorship of Federally Funded Research and Development Centers (FFRDCs).

2. Supersession. Memorandum from the Chairman to the Members of the Federal Council for Science and Technology, dated November 1, 1967, which set forth criteria for identification of FFRDCs and the requirement for a master Government listing of these centers, is superseded by this policy letter.

3. Authority. This policy letter is being issued pursuant to Sections 6(a), 6(d)(1) and 6(d)(8) of the Office of Federal Procurement Policy Act, as amended, 41 U.S.C. 405 (a), (d)(1) and (d)(8), which empower the Administrator of OFPP to prescribe Government-wide procurement policies and to complete action on the recommendations of the Commission on Government Procurement.

4. Background. The Departments of Energy, Defense, Health and Human Services, the National Aeronautics and Space Administration and the National Science Foundation currently sponsor a total of 34 FFRDCs. Non-sponsoring departments and agencies also utilize these FFRDCs. Federal funding of FFRDC's currently exceeds 4 billion dollars per year.

In 1967, a Government-wide policy for the identification and maintenance of a master listing of these FFRDCs was issued (reference paragraph 2 - Supersession). In 1972, the Commission on Government Procurement recommended that the Federal Government keep open the option to organize and use FFRDCs to satisfy needs that cannot be satisfied effectively by other organizational resources. The Commission also recommended that agency heads periodically review the continuing need for existing FFRDCs and approve any proposal for new FFRDCs, with specific attention paid to the method of ultimate termination of sponsorship. This policy letter is based on the executive branch consideration of the Commission's recommendations.

5. Definitions

a. Primary Sponsor — The executive agency which manages, administers or monitors overall use of the FFRDC.

b. Sponsor means an executive agency which funds and monitors specific work of a continuing nature with an FFRDC and is party to a sponsoring agreement. Multiple sponsorship of an FFRDC is possible so long as one agency agrees to act as the primary sponsor for administrative purposes.

c. Federally Funded Research and Development Center (FFRDC).

- (1) FFRDCs do not have a prescribed organizational structure. They can range from the traditional contractor-owned/contractor-operated or Government-owned/contractor-operated (GOCO) organizational structures to various degrees of contractor/Government control and ownership. In general, however, all of the following criteria should be met before an activity is identified as an FFRDC:
  - (a) Performs, analyzes, integrates, supports (non-financial) and/or manages basic research, applied research, and/or development. (Activities primarily engaged in routine quality control and testing, routine service activities, production, mapping and surveys, and information dissemination, even though otherwise meeting the requirements of paragraph 5.c., are specifically excluded from FFRDC designation).
  - (b) Performance of the functions in 5.c.(1)(a) is either upon the direct request of the Government or under a broad charter from the Government, but in either case the results are directly monitored by the Government. However, the monitoring shall not be such as to create a personal services relationship, or to cause disruptions that are detrimental to the productivity and/or quality of the FFRDC's work.
  - (c) The majority of the activity's financial support (70% or more) is received from the Government with a single agency usually predominating in that financial support.
  - (d) In general, most or all of the facilities are owned by the Government or funded, under contract, by the Government.
  - (e) The activity is operated, managed and/or administered by either a university or consortium of universities, other non-profit organization or industrial firm as an autonomous organization or as an identifiable separate operating unit of a parent organization.
  - (f) A long term relationship evidenced by specific agreement exists or is expected to exist between the operator, manager, or administrator of the activity and its primary sponsor.

- (2) In addition to the above criteria, the relationship between the activity and the Government should exhibit the following characteristics in order to qualify for FFRDC identification:
- (a) The activity (organization and/or facilities) is brought into existence at the initiative of a Government agency or bureau to meet some special research or development need which, at the time, cannot be met as effectively by existing in-house or contractor resources.
  - (b) Work from other than a sponsoring agency is undertaken only to the extent permitted by the sponsoring agency and in accordance with the procedures of the sponsoring agency.
  - (c) The activity, whether the operator of its own or a Government-owned facility, has access, beyond that which is common to the normal contractual relationship, to Government and/or supplier data, employees, and facilities needed to discharge its responsibilities efficiently and effectively, whether the data is sensitive/proprietary or not.
  - (d) The primary sponsor undertakes the responsibility to assure a reasonable continuity in the level of support to the activity consistent with the agency's need for the activity and the terms of the sponsoring agreement.
  - (e) The activity is required to conduct its business in a responsible manner befitting its special relationship with the Government, to operate in the public interest free from organizational conflict of interest, and to disclose its affairs (as an FFRDC) to the primary sponsor.

6. Policy.

a. General. Agencies will rely, to the extent practicable, 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 USC 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. This Policy Letter does not apply to the performance of commercial activities. Performance of commercial activities is governed by OMB Circular No. A-76.

b. Establishment of an FFRDC. In establishing an FFRDC, the sponsoring agency shall ensure that:

- (1) Existing alternative sources for satisfying agency requirements cannot effectively meet the special research or development needs (6.a).
- (2) At least three notices are placed over a 90-day period in the Commerce Business Daily and The Federal Register indicating the agency's intention to sponsor an FFRDC and the scope and nature of the effort to be performed by the FFRDC.
- (3) There is sufficient Government expertise available to adequately and objectively evaluate the work to be performed by the FFRDC.
- (4) Controls are established to ensure that the costs of the services being provided to the Government are reasonable.
- (5) The responsibility for capitalization of the FFRDC has been defined in such a manner that ownership of assets may be readily and equitably determined upon termination of the FFRDC relationship with its sponsor(s).
- (6) The purpose, mission and general scope of effort of the FFRDC is stated clearly enough to enable differentiation between work which should be performed by the FFRDC and that which should be performed by a non-FFRDC.

c. Sponsoring Agreements. When FFRDCs are established, long-term Government relationships are encouraged in order to provide the continuity that will attract high quality personnel to the FFRDC. This relationship should be of a type to encourage the FFRDC to maintain currency in its field(s) of expertise, maintain its objectivity and independence, preserve its familiarity with the needs of its sponsor(s), and provide a quick response capability. A contract is the generally preferred instrument under which an FFRDC accomplishes effort for its sponsor(s). However, there may be instances where other legal instruments may be appropriate. A written agreement of sponsorship between the FFRDC and its sponsor or primary sponsor where more than one sponsor is involved may be used in addition to the contract or other legal instrument under which an FFRDC accomplishes effort. The specific content of a sponsoring agreement will vary depending on the situation. However, there are certain areas common to all situations that must be addressed. The following requirements must be addressed in either a contract, a sponsoring agreement or sponsoring agency's policies and procedures.



(1) Mandatory Requirements

- (a) 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 consistent with the definition of an FFRDC set forth in paragraph 5.c(1)(a) and will 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.
- (b) Provisions for the orderly termination or nonrenewal of the agreement, disposal of assets and settlement of liabilities. The term of the sponsoring agreement will not exceed five years but can be renewed, as a result of periodic review, in not to exceed five year increments.
- (c) A prohibition against the FFRDC competing with any non-FFRDC concern in response to a Federal agency formal Request For Proposal for other than the operation of an FFRDC. This prohibition is not required to be applied to any parent organization or other subsidiary of the parent organization in its non-FFRDC operations. However, sponsoring agencies may expand this prohibition as they determine necessary and appropriate.
- (d) A delineation of whether or not the FFRDC may accept work from other than the sponsor(s). If non-sponsor work can be accepted, a delineation of the procedures to be followed along with any limitations as to the clients (other Federal agencies, State or local governments, non-profit or profit organizations, etc.) from which work may be accepted. Limitations and procedures with respect to responding to requests for information as to an FFRDC's capabilities or qualifications are inherently a part of the "work for others" question and will be addressed by the sponsoring agency.

(2) Other Requirements As Appropriate

- (a) When cost type contracts are used, the sponsor(s) should identify any cost elements which will require advance agreement. Such items may be, but are not necessarily limited to, salary structure, depreciation, various indirect costs such as independent research and development or others as determined appropriate by the sponsor(s).
- (b) Where fees are determined by the sponsor(s) to be appropriate, considerations which will 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, needs or others as determined appropriate by the sponsor(s).

(c) Other provisions as determined appropriate by the sponsor(s).

d. Changing the Basic Scope of an Existing FFRDC's Sponsoring Agreement. In changing the purpose, mission and general scope of effort to be performed or role of an existing FFRDC as set forth in its sponsoring agreement (see 6.c.(1)(a)), the sponsoring agency shall make such changes consistent with its statutory authority and the requirements for establishing a new FFRDC as set forth in paragraph 6.b.

e. Use of the FFRDC by the Sponsor or Primary Sponsor in the Case of Multiple Agency Sponsorship. 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 (paragraph 6.c.) and in accordance with this Policy Letter. 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 USC 1535) or other statutory authority. Sponsoring agencies must comply with applicable procurement or assistance statutes, policies and regulations for non-competitive actions before placing work which is outside the scope of the sponsor's contractual or sponsoring agreement with an FFRDC.

f. Use of an Existing FFRDC by a Non-Sponsoring Federal Agency. Non-sponsoring Federal agencies may use an FFRDC only if the terms of the FFRDC's sponsoring agreement or contract permit work from other than a sponsoring agency. Where use by a non-sponsor is permitted by the Sponsoring Agreement, the work must require the special relationship of an FFRDC as defined in paragraph 5.c. and either be treated as a direct procurement (action) or processed under The Economy Act of 1932 (31 USC 1535) or other statutory authority. Work processed under The Economy Act of 1932 (31 USC 1535) or other statutory authority must clearly fall within the purpose, mission and general scope of effort established by the sponsoring agency for the FFRDC (paragraph 6.c.). Processing under the Economy Act or other statutory authority is subject to agreement by the receiving agency. Non-sponsoring agencies must fully comply with procurement or assistance statutes, policies and regulations for non-competitive actions prior to placing work directly with a specific FFRDC. The FFRDC must comply with the procedures established by the sponsoring agency (paragraph 6.c.(1)(d)) before accepting work from a non-sponsoring Federal agency.

g. Use of an Existing FFRDC by Other Than a Federal Agency. Work from other than a Federal agency may be accepted only to the extent permitted by the sponsoring agency. The FFRDC must comply with the procedures established by the sponsoring agency (paragraph 6.c.(1)(d)) before accepting work from other than a Federal agency.

h. Consulting Services. Agencies sponsoring FFRDC work which constitutes consulting services, as defined by OMB Circular No. A-120, will comply with the provisions of that Circular.

i. Production/Manufacturing. FFRDCs will not be asked to perform quantity production and manufacturing work unless authorized by legislation. Such activities as breadboarding, modeling or other tasks inherent to R&D are permissible.

j. Periodic Review. Prior to renewal of a sponsoring agreement, agencies shall conduct a comprehensive review of their use and need for each FFRDC that they sponsor. Where multiple agency sponsorship exists this review will be a coordinated interagency effort. When the funding for an FFRDC is a specific line item within the sponsoring agency's budget, the comprehensive review may be done in conjunction with the budget process or the review may be done separately. The sponsoring agency(s) shall apprise other agencies who use the FFRDC of the scheduled review and afford them an opportunity to assume sponsorship in the event the current sponsorship is determined no longer appropriate. Final approval to continue or terminate an agency's sponsorship arrangement with a given FFRDC as a result of this review shall rest with the head of that sponsoring agency. The results of this review will be formally documented. The periodic review should include:

- (1) An examination of the agency's special technical needs and mission requirements to determine if and at what level they continue to exist.
- (2) Consideration of alternative sources to meet the agency's needs. Such consideration will include compliance with the Notice and Publication requirements of P.L. 98-72 (15 USC 637(e)) prior to renewal of the contract or Sponsoring Agreement unless otherwise exempted.
- (3) An assessment of the efficiency and effectiveness of the FFRDC in meeting the agency's needs.
- (4) An assessment of the adequacy of the FFRDC management in assuring a cost effective operation.
- (5) A determination that the guidelines of section 6 are being satisfied.

k. Termination or nonrenewal of an FFRDC Relationship. When a sponsor's need for the FFRDC no longer exists, the sponsorship may be transferred to one or more Government agencies, if appropriately justified. Otherwise it shall be phased out, the assets disposed of and all liabilities settled as provided by the terms and conditions of the sponsoring agreement.

7. Action Requirements.

a. Not later than September 30, 1984, each agency currently sponsoring an FFRDC will review the terms of its existing agreements with the FFRDCs for compliance with this policy letter. Where existing agreements do not comply with this policy letter the primary sponsor will develop a schedule to bring the agreements into compliance not later than the next contract renewal or five years from the effective date of this policy letter, whichever comes first.

b. Where the review required by 7.a. reveals that a clear statement of the purpose, mission and general scope of effort, as described in paragraph 6.b.(6) and 6.c.(1)(a), does not exist, the sponsoring agency shall ensure such a statement is developed not later than September 30, 1984.

c. The primary sponsor will notify the Office of Science and Technology Policy prior to designating any new organization as an FFRDC (paragraph 6.b.), changing the basic scope of effort of an existing FFRDC (paragraph 6.d.) or changing the status of an existing FFRDC (paragraph 6.k.).

d. The National Science Foundation will maintain a master Government list of FFRDCs based upon the definition in this Policy Letter.

e. FFRDCs will be identified by their primary sponsors who will provide information, including funding data, on the type of R&D being performed by the FFRDCs to the National Science Foundation upon their request for such information.

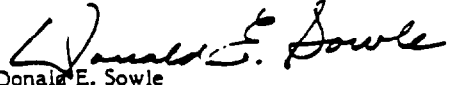
f. Each agency head is responsible for ensuring that the provisions of this policy are followed.

8. Effective Date. The Policy Letter is effective (60 days after publication in the Federal Register).

9. Implementation. Aspects of this policy letter requiring implementation will be covered by the Department of Defense, the General Services Administration and the National Aeronautics and Space Administration in the Federal Acquisition Regulation not later than 180 days from the date of this policy letter. Implementation will be written so as to be compatible with the requirements, as of the date of this policy letter, of FAR 17.6 "Management and Operating Contracts" when the arrangement with an FFRDC constitutes a management and operating contract.

10. Information Contact. All questions or inquiries about this policy letter should be submitted to the Office of Management and Budget, Office of Federal Procurement Policy, telephone (202) 395-6810.

11. Sunset Review Date. This policy letter will be reviewed no later than six years after its effective date for extension, modification, or rescission.

  
Donald E. Sowle  
Administrator

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# Example of a Hypothetical Broad Agency Announcement of an FFRDC's Research Plan

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The Department of the Army and the Arroyo Center-the Army's FFRDC- invite proposals for research in support of the Arroyo Center's research plan for fiscal year 1988 in the general areas of:

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## Policy and Strategy

- Objective: Help the Army identify and operationally define objectives, that is, develop the means necessary to accomplish them reliably in the face of a range of threats.
- Research areas:
  - The political/military conditions in important regions of the world which might lead to the Army's employment.
  - The impact on the Army of enemy and allies' warfighting doctrines, operational concepts, capabilities, and experiences.
  - Current and alternative roles and missions and associated force structures for the Army.

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## Force Development and Employment

- Objectives: Help the Army design alternative doctrine, tactics, equipment, and operating procedures and to evaluate their likely impact on current and future battlefields.
- Research areas:
  - Deep battle system analysis.
  - Corps and echelon above corps command and control.
  - AirLand battle evaluation methodologies.
  - Close battle system analysis.

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## Readiness and Sustainability

- Objective: Help the Army improve its warfighting capability through innovations in support systems.
- Research areas:
  - Improving the integration of systems across echelons and functions.
  - Improving the responsiveness of systems.
  - Employing capability assessment methods to test improvements in combat terms.

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## Manpower, Training, and Performance

- Objective: Help the Army to understand and enhance how manpower, personnel, and training policies contribute to combat capability and readiness.

- Research areas:
  - The readiness impact of changes in personnel-related systems and practices, such as family, medical, and rotation programs.
  - Alternative training and weapon system design procedures to improve Army employment of technological advances.
  - Design and testing of unit training methods to increase warfighting capability.

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## Applied Technology

- Objective: Identify and assess ways in which technological advances can help offset Soviet advantages or constraints on U.S. force structure.
- Research areas:
  - Defining technologies and systems for enhancing near-term combat capabilities.
  - Evaluating advanced technologies and systems that promise to yield innovative weapon system concepts.

Our overriding purpose in supporting this research is to advance the state of the art in those areas related to the problems the Army encounters in developing and maintaining a superior Army; in lowering the cost and improving the performance, maintainability and supportability of Army weapon systems; and in creating and preventing technological surprise.

Proposals received will be deemed to be in response to this announcement in accordance with Public Law 98-369, the Competition in Contracting Act of 1984. There will be no further solicitations. Proposals will be selected for award on a competitive basis after a peer or scientific review.

The following are the essential evaluation factors:

- a. Overall scientific, technical, or socio-economic merits of the proposal.
- b. Potential contributions of the effort to the Arroyo Center's specific mission.
- c. The offeror's capabilities, related experience, facilities, techniques, or unique combinations of these which are integral factors for achieving the proposal objectives.

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**Appendix IV  
Example of a Hypothetical Broad Agency  
Announcement of an FFRDC's Research Plan**

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d. The qualifications, capabilities, and experience of the proposed principal investigator, team leader, or key personnel who are critical in achieving the proposed objectives.

e. Realism and reasonableness of the proposed cost and availability of funds.

Proposals may be submitted for one or more of the above topics or for a specific portion of one topic. A proposer may submit separate proposals on different topics or different proposals on the same topic. The government does not guarantee an award in each topic area.

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