United States Government Accountability Office

Report to Congressional Committees

July 2022

FEDERAL RESEARCH CENTERS

Revising DOD Oversight Policy Could Assure Access to Performance and Effectiveness Information

Accessible Version

GAO-22-105278

GAO Highlighs

Highlights of GAO-22-105278, a report to congressional committees

July 2022

FEDERAL RESEARCH CENTERS

Revising DOD Oversight Policy Could Assure Access to Performance and Effectiveness Information

Why GAO Did This Study

FFRDCs are intended to meet DOD's long-term research and development needs that cannot be met effectively by the department or private sector alone. DOD historically awards FFRDC contracts on a sole-source basis (i.e., noncompetitively). Some industry representatives have raised questions about this approach, stating that others could provide similar support to DOD.

An explanatory statement included a provision for GAO to review DOD-sponsored FFRDCs. This report describes the analyses DOD conducts to justify the award of sole-source FFRDC contracts, and assesses the extent to which DOD oversight includes an evaluation of FFRDC performance and effectiveness.

GAO reviewed relevant federal and defense regulations, documents, and guidance; interviewed relevant officials; and analyzed contracting documents.

What GAO Recommends

GAO is recommending that DOD ensures OUSD(R&E), in its next FFRDC policy update, requires primary sponsors to provide performance and other relevant information about the effectiveness of the FFRDCs on an annual basis. DOD concurred with the recommendation.

View GAO-22-105278. For more information, contact John D. Sawyer at (202) 512-4841 or sawyerj@gao.gov.

What GAO Found

To help meet its research needs, the Department of Defense (DOD) sponsors 10 Federally Funded Research and Development Centers (FFRDC), which are nonprofit, university-affiliated, or industry organizations. Each DOD-sponsored FFRDC is managed by a specific military department or organization, called the primary sponsor.

Primary sponsors must conduct comprehensive reviews at least once every 5 years in part to justify their contract awards for the FFRDCs, including contracts awarded on a sole-source basis. The review process includes assessments of alternative sources, and information about FFRDC performance that primary sponsors collect annually to support the contract award process. DOD's Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) also has responsibilities for overseeing the FFRDCs (see figure).

Examples of DOD Responsibilities for FFRDCs

	Office of the Under Secretary of Defense for Research and Engineering	Primary Sponsor (military department or other DOD organization)
Strategic Relationships	• Between DOD and all Federally Funded Research and Development Centers (FFRDC)	• With the sponsored FFRDC
Management and Oversight	• Oversees FFRDC program • Sets policy and procedures • Chairs annual meeting and provides strategic update of DOD priorities	• Prioritizes and approves all work for the sponsored FFRDC • Conducts annual performance assessment and reviews annual program plan • Oversees contract
Comprehensive Review	• Reviews and approves	• Conducts

Source: GAO analysis of Department of Defense (DOD) documents. | GAO-22-105278

While primary sponsors assess the performance of their FFRDCs each year, OUSD(R&E) is not assured of access to this information on an annual basis. Primary sponsors are required by DOD policy to report to OUSD(R&E) on the resources—including funding—they allocate to the FFRDCs each year. However, the policy does not expressly require primary sponsors to provide this office with performance information on an annual basis. Outside of the comprehensive review process—which occurs as infrequently as every 5 years—OUSD(R&E) relies on the willingness of primary sponsors to share the information. Officials said they successfully collect technical information on the results of FFRDC research each year. However, they have encountered resistance to requests for additional information, such as obligations data at the project level. OUSD(R&E)'s visibility into performance information to determine the FFRDCs' effectiveness could similarly be limited if a primary sponsor was reluctant to share the information. Assurance of access to annual performance and other relevant information about the effectiveness of the FFRDCs would better position

OUSD(R&E) to assess the extent to which the FFRDCs continue to support DOD's priorities.

Contents

GAO Highlighs ii

Why GAO Did This Study ii
What GAO Recommends ii
What GAO Found ii

Letter 1

Background 3
DOD Analyzed Alternative Sources before Awarding Sole-Source Contracts for FFRDCs 12
Primary Sponsors Measure FFRDC Performance Annually, but DOD Could Enhance Oversight 16
Conclusions 20
Recommendation for Executive Action 21
Agency Comments 21

Appendix I: Aerospace 23

Appendix II: Carnegie Mellon University Software Engineering Institute (CMU SEI) 24

Appendix III: Center for Naval Analyses (CNA) 25

Appendix IV: Institute for Defense Analyses (IDA) Center for Communications and Computing 26

Appendix V: Institute for Defense Analyses (IDA) Systems and Analyses Center 27

Appendix VI: Massachusetts Institute of Technology Lincoln Laboratory (MIT LL) 28

Appendix VII: MITRE National Security Engineering Center (NSEC) 29

Appendix VIII: RAND Arroyo Center 30

Appendix IX: RAND National Defense Research Institute (NDRI) 31

Appendix X: RAND Project Air Force (PAF) 32

Appendix XI: Comments from the Department of Defense 33

Text of Appendix XI: Comments from the Department of Defense 35

Appendix XII: GAO Contact and Staff Acknowledgments 37

GAO Contact 37
Staff Acknowledgments 37

Tables

Examples of DOD Responsibilities for FFRDCs ii
Data table for Figure 1: Reported Obligations for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC), Fiscal Years 2019-2021 5
Table 1: Current DOD-Sponsored Federally Funded Research and Development Centers (FFRDC) 7
Text of Figure 2: Overall Management Structure for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC) 8
Table 2: Examples of Management and Oversight Responsibilities for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC) 9
Data table for Figure 3: STE Allocations for DOD-Sponsored Federally Funded Research and Development Centers, Fiscal Years 2019-2021 12

Figures

Figure 1: Reported Obligations for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC), Fiscal Years 2019-2021 5
Figure 2: Overall Management Structure for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC) 8
Figure 3: STE Allocations for DOD-Sponsored Federally Funded Research and Development Centers, Fiscal Years 2019-2021 12

Abbreviations

CMU SEI	Carnegie Mellon University Software Engineering Institute
CNA	Center for Naval Analyses
CPARS	Contractor Performance Assessment Reporting System
DOD	Department of Defense
DODI	DOD Instruction
FAR	Federal Acquisition Regulation
FFRDC	Federally Funded Research and Development Centers
FTE	Full-time equivalent
IDA	Institute for Defense Analyses
IDIQ	Indefinite-delivery / indefinite-quantity
J&A	Justification and Approval
MIT LL	Massachusetts Institute of Technology Lincoln Laboratory

NDRI	National Defense Research Institute
NSEC	National Security Engineering Center
OUSD(R&E)	Office of the Under Secretary of Defense for Research and Engineering
PAF	Project Air Force
STE	Staff Years of Technical Effort

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

July 19, 2022

Congressional Committees

The Department of Defense (DOD) uses Federally Funded Research and Development Centers (FFRDC) to meet special long-term research and development needs that cannot be met effectively by DOD or the private sector alone. DOD reported that, in fiscal year 2021, it obligated approximately $2.6 billion for FFRDCs. FFRDCs can benefit DOD's mission in a multitude of ways, such as producing in-depth analyses and rapidly responding to short-term research needs. According to DOD, FFRDCs are particularly critical to developing innovative solutions that will allow DOD to effectively accomplish its mission in today's environment of fast-paced technology competition.[1] In addition, their long-term strategic relationship with DOD allows FFRDCs to develop detailed knowledge of the agency's needs and recruit and retain scientific and technical expertise.

DOD sponsors FFRDCs by establishing contracts and agreements with entities to operate, manage, and administer the FFRDCs. These entities consist of nonprofit, university-affiliated, or private industry organizations. According to past GAO and DOD Office of the Inspector General reports, DOD historically awarded contracts to manage and operate FFRDCs on a sole-source basis—that is, awarded on a noncompetitive basis.[2] Members of Congress have raised questions about this approach, and

[1]Department of Defense, Office of the Under Secretary for Defense for Research and Engineering, *Report to Congress on Methodology and Criteria for Assessing the Department of Defense Federally Funded Research and Development Centers* (June 2021).

[2]GAO, *Federal Research: DOD's Use of Study and Analysis Centers*, GAO-20-31 (Washington, D.C.: Dec. 9, 2019); *Federal Research: Opportunities Exist to Improve the Management and Oversight of Federally Funded Research and Development Centers*, GAO-09-15 (Washington, D.C.: Oct. 8, 2008); and *Federally Funded R&D Centers: Issues Relating to the Management of DOD-Sponsored Centers*, GAO/NSIAD-96-112 (Washington, D.C.: Aug. 6, 1996). Department of Defense, Office of the Inspector General, *Contracting Practices for the Use and Operations of DOD-Sponsored Federally Funded Research and Development Centers*, Report No. 95-048 (Arlington, VA: Dec. 2, 1994); and *Sole-Source Justifications for DOD-Sponsored Federally Funded Research and Development Centers*, Report No. 94-012, (Arlington, VA: Nov. 4, 1993). See FAR § 6.302-3.

some industry representatives have noted that other entities could provide similar support to DOD.

The Joint Explanatory Statement accompanying the Consolidated Appropriations Act for Fiscal Year 2021 included a provision for us to review DOD-sponsored FFRDCs.[3] This report (1) describes what analyses DOD conducts to justify the award of sole-source FFRDC contracts, and (2) assesses the extent to which DOD's oversight of the FFRDCs includes an evaluation of their performance and effectiveness.

To describe the analyses DOD conducts to justify the award of sole-source FFRDC contracts, we collected and analyzed contracting documents, including acquisition plans and justification and approval (J&A) documents, for the 11 current sole-source contracts awarded for the 10 DOD-sponsored FFRDCs.[4] We identified requirements associated with awarding sole-source FFRDC contracts by analyzing relevant federal and defense acquisition regulations and management documents. This included DOD Instruction (DODI) 5000.77, which establishes policies and procedures for DOD's FFRDC program.[5] We also reviewed relevant DOD guidance and prior GAO work.[6]

To assess the extent to which DOD's oversight of the FFRDCs includes an evaluation of their performance and effectiveness, we analyzed documents such as the FFRDCs' sponsoring agreements, comprehensive reviews, annual performance assessments, and feedback results. We evaluated DOD's oversight efforts against the *Standards for Internal Control in the Federal Government* pertaining to using quality information and monitoring activities.[7] We also interviewed officials from the Office of the Under Secretary for Defense for Research and

[3]166 Cong. Rec. H8168 (2020).

[4]One FFRDC is managed using two contracts awarded by the Air Force and the Army. As such, it has two different program and contracting offices and sets of contracting documentation. Of the 11 current contracts, six were awarded prior to fiscal year 2019. In addition, our review of the 10 FFRDCs did not include classified contract documentation. For more information about the 10 DOD-sponsored FFRDCs, see appendixes I-X.

[5]DOD Instruction 5000.77, *DOD Federally Funded Research and Development Center (FFRDC) Program* (effective Jan. 31, 2018; change 3, effective Dec. 13, 2019).

[6]GAO-20-31; GAO-09-15; and GAO/NSIAD-96-112.

[7]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: Sept. 10, 2014).

Engineering (OUSD(R&E)), primary sponsors or their representatives, such as executive agents, and program and contracting officials, on their respective roles and responsibilities regarding DOD-sponsored FFRDCs. We also discussed the contracting structures for the FFRDCs, and the extent to which officials assess the performance and effectiveness of the FFRDCs.

In addition, we collected and analyzed DOD reports on obligations data from fiscal years 2019-2021. These data included information on staff years of technical effort (STE)—a measure of available resources approximately equal to the work of one employee for 1 year—allocated for each of those fiscal years.[8] Where available, we also collected project-level information, including the number of projects and their associated obligations during this same period. To assess the reliability of these data, we compared them to other reported data and discussed with cognizant officials their verification process. We determined the data were sufficiently reliable for the purposes of our report.

We conducted this performance audit from June 2021 to July 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

As described in the Federal Acquisition Regulation (FAR), individual FFRDCs are intended to meet the special, long-term research or development needs of sponsoring agencies in areas integral to their missions and operations that cannot be met as effectively by existing in-

[8]DOD's FFRDCs work within an annual ceiling of staff years of technical effort (STE), defined in the DOD instruction as nominally 1,810 hours of paid effort for technical services per work year, for the purposes of workload allocation and management. Another measure of employment is full-time equivalent (FTE) employment, which is defined in Office of Management and Budget Circular A-11 as the total number of hours worked divided by the number of compensable hours applicable to the fiscal year. STE differs from FTE in that it specifies technical services and a fixed number of hours per fiscal year; whereas FTE includes all work activity and is based on the total hours available in any particular fiscal year.

house or non-FFRDC contractor resources.[9] Sponsoring agencies are those responsible for the overall use of the FFRDC. DOD's FFRDC program was established to manage the use of FFRDCs and enable them to support DOD's strategic priorities, among other things. DOD currently sponsors 10 FFRDCs, which are divided into three categories:

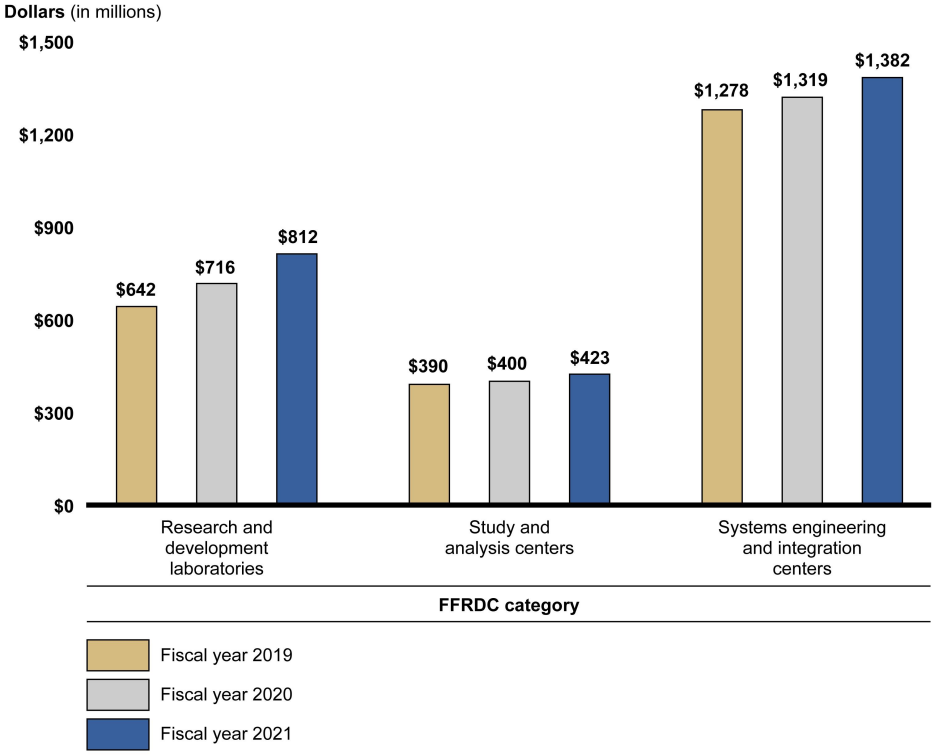
1. **Study and Analysis Centers.** These centers deliver independent and objective analyses and advise in core areas important to their sponsors in support of policy development, decision-making, and alternative approaches on various issues for DOD.
2. **Systems Engineering and Integration Centers.** These centers meet long-term technical and engineering needs to ensure complex systems address operational requirements. Among other things, these centers assist with testing system performance, and development and acquisition of system hardware and software.
3. **Research and Development Laboratories.** These laboratories conduct research and development, focusing on the development and prototyping of new technologies and capabilities to meet DOD needs.

Figure 1 shows annual reported DOD obligations by FFRDC category for fiscal years 2019-2021.[10]

[9]FAR § 35.017(a)(2).FAR § 35.017 and Defense FAR Supplement § 235.017 are the federal and DOD regulations, respectively, regarding FFRDCs.

[10]See GAO-20-31 for annual DOD obligations by FFRDC category for fiscal years 2013-2018.

Figure 1: Reported Obligations for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC), Fiscal Years 2019-2021



Source: GAO analysis of Department of Defense (DOD) annual reports to Congress. | GAO-22-105278

Data table for Figure 1: Reported Obligations for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC), Fiscal Years 2019-2021

	2019	2020	2021	Grand Total
Laboratories	$641,700,000.0	$716,300,000.0	$812,010,000.0	$2,170,010,000.0
Studies and Analysis	$389,900,000.0	$399,900,000.0	$423,100,000.0	$1,212,900,000.0
Systems Engineering & Integration	$1,278,100,000.0	$1,318,600,000.0	$1,382,300,000.0	$3,979,000,000.0

Note: Obligation amounts were not adjusted for inflation.

Source: GAO analysis of Department of Defense (DOD) annual reports to Congress. | GAO-22-105278

Each of the DOD-sponsored FFRDCs is managed by a specific military department or organization within DOD—referred to as the FFRDC primary sponsor—which serves as the lead entity responsible for managing, administering, or monitoring overall use of the FFRDC. As shown in table 1, the 10 DOD-sponsored FFRDCs are managed by six primary sponsors.

Table 1: Current DOD-Sponsored Federally Funded Research and Development Centers (FFRDC)

	FFRDC	Primary Sponsor Office	Founded
Study and Analysis Centers	Center for Naval Analyses	Assistant Secretary of the Navy, Research, Development, and Acquisition	1942
	Institute for Defense Analyses (IDA) Systems and Analyses Center	Under Secretary of Defense for Acquisition and Sustainment	1956
	RAND Arroyo Center	Director, Center for Army Analysis, Modeling, and Simulation	1982
	RAND National Defense Research Institute	Under Secretary of Defense for Acquisition and Sustainment	1984
	RAND Project Air Force	Assistant Secretary of the Air Force, Acquisition, Technology and Logistics	1948
Systems Engineering and Integration Centers	Aerospace	Assistant Secretary of the Air Force, Acquisition, Technology and Logistics	1960
	MITRE National Security Engineering Center	Deputy Chief Technology Officer for Science and Technology	1958
Research and Development Laboratories	Carnegie Mellon University Software Engineering Institute	Deputy Chief Technology Officer for Science and Technology	1984
	IDA Center for Communications and Computing	National Security Agency, Research Directorate	1958
	Massachusetts Institute of Technology Lincoln Laboratory	Deputy Chief Technology Officer for Science and Technology	1951

Source: GAO analysis of Department of Defense (DOD) documents. | GAO-22-105278

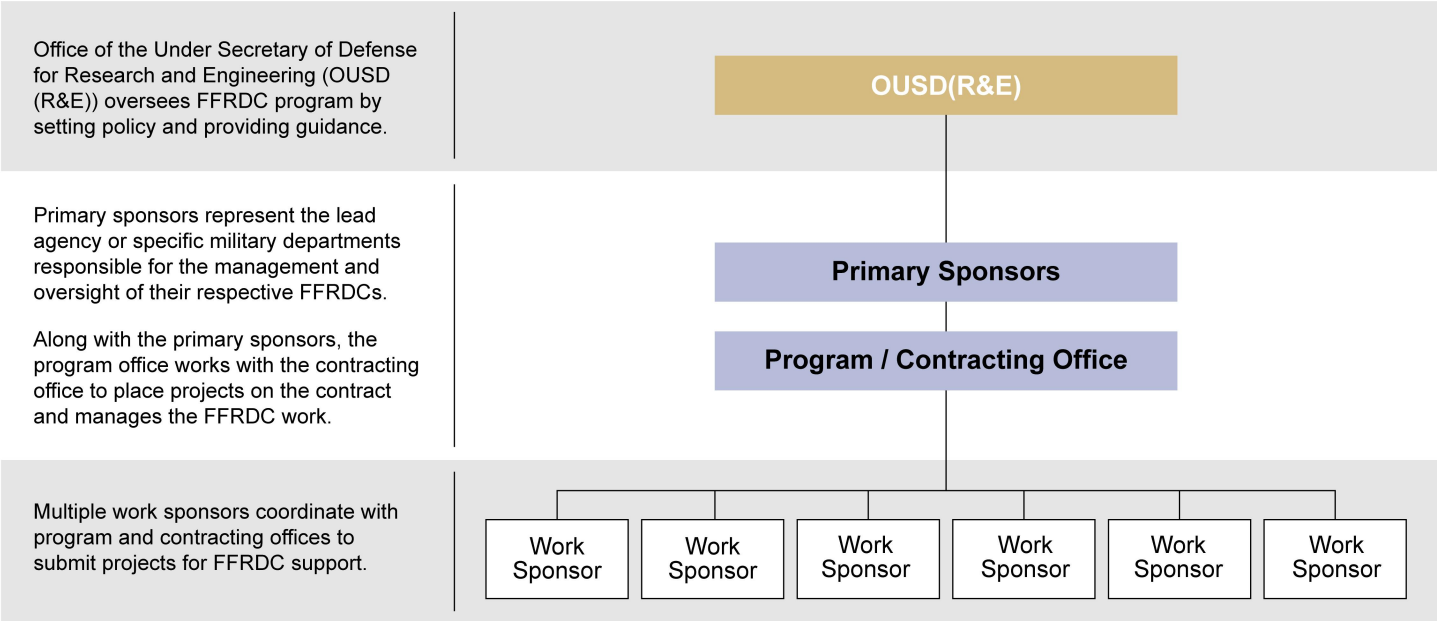
Management and Oversight Structure

DODI 5000.77 establishes the policies and procedures for managing FFRDCs. The instruction also defines the roles and responsibilities of various entities within DOD for managing and overseeing FFRDCs. These entities include OUSD(R&E), the primary sponsors, and work sponsors.[11] Program and contracting offices for the FFRDCs manage the contract and the performance of the FFRDCs for the work sponsors. DODI 5000.77 became effective in January 2018, and was most recently

[11]Oversight of DOD's FFRDC program was transferred to the Office of the Under Secretary of Defense for Research and Engineering following the restructuring of DOD's Office of the Under Secretary of Defense for Acquisition, Technology and Logistics into two separate entities: the Office of the Under Secretary of Defense for Research and Engineering and Office of the Under Secretary of Defense for Acquisition and Sustainment. This reorganization, effective February 1, 2018, was provided for by the National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328, § 901 (2016) as amended by the National Defense Authorization Act for Fiscal Year 2018, Pub. L. No. 115-91, §§ 901-903 (2017) (codified at 10 U.S.C. §§ 133a and 133b).

updated in December 2019. Figure 2 shows the overall management structure and responsibilities for the FFRDCs.

Figure 2: Overall Management Structure for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC)



Source: GAO analysis of Department of Defense (DOD) documents. | GAO-22-105278

Text of Figure 2: Overall Management Structure for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC)

- OUSD (R&E): Office of the Under Secretary of Defense for Research and Engineering (OUSD (R&E)) oversees FFRDC program by setting policy and providing guidance.
- Primary Sponsors: Primary sponsors represent the lead agency or specific military departments responsible for the management and oversight of their respective FFRDCs.
- Program / Contracting Office: Along with the primary sponsors, the program office works with the contracting office to place projects on the contract and manages the FFRDC work.
- Work Sponsors: Multiple work sponsors coordinate with program and contracting offices to submit projects for FFRDC support.

Source: GAO analysis of Department of Defense (DOD) documents. | GAO-22-105278

DODI 5000.77, which was developed by OUSD(R&E), outlines specific responsibilities for OUSD(R&E) and the primary sponsors. For example, OUSD(R&E) has broad oversight responsibilities across the DOD FFRDC

program, and the primary sponsors are responsible for annually assessing the performance of individual FFRDCs. Within OUSD(R&E), the office of the Deputy Chief Technology Officer for Science and Technology is responsible for developing and implementing policies and procedures to operate and manage the DOD FFRDC program. This office also contains the primary sponsor's representative for the three FFRDCs noted in table 1 as being under its purview. Table 2 describes examples of FFRDC management and oversight responsibilities, reflecting where those of OUSD(R&E) correspond to those of a primary sponsor and vice versa.

Table 2: Examples of Management and Oversight Responsibilities for DOD-Sponsored Federally Funded Research and Development Centers (FFRDC)

Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E))	Primary Sponsor (military department or other DOD organization)
Establishes and maintains strategic long-term relationships between the DOD and FFRDCs	Maintains a strategic long-term relationship with the sponsored FFRDC
Establishes policies and prescribes procedures for FFRDC oversight	Provides active oversight of the sponsored FFRDC and its work, including annually assessing its performance
Establishes the DOD FFRDC program and maintains cognizance of the FFRDCs	Establishes and maintains a sponsoring agreement with the FFRDC parent organization
Assigns primary sponsor and approves sponsoring agreement between primary sponsor and FFRDC parent organization	Approves all work for the FFRDC, including prioritization of work sponsor requests to support high-priority requirements
Reviews and approves results of FFRDC comprehensive reviews that are required prior to contract award	Conducts a comprehensive review of the use of and need for the sponsored FFRDC, including an assessment of its effectiveness at least every 5 years
Chairs an annual meeting with primary sponsors and FFRDC directors to provide a strategic update and review DOD priorities	Chairs a program review meeting with the FFRDC and major work sponsors to discuss the FFRDC's performance during the previous year and the FFRDC's annual program plan

Source: GAO analysis of Department of Defense (DOD) documents. | GAO-22-105278

Establishing Relationships with and Assigning Work to FFRDCs

The relationships between DOD and the FFRDCs are governed via sponsoring agreements and contracts or other applicable agreements. A comprehensive review of the use of and need for the FFRDC is required prior to contract award. Primary sponsors initiate projects and allocate resources through the contracts for the FFRDCs.

- **Sponsoring agreements.** DOD's relationships with FFRDCs are defined through sponsoring agreements between the primary sponsor and the FFRDC parent organizations (i.e., the nonprofit, university-

affiliated, or private industry organization that contracts with DOD to administer the FFRDC).[12] According to DODI 5000.77, sponsoring agreements establish conditions under which DOD may award an FFRDC contract and describe the overarching requirements for operation of the FFRDC. The sponsoring agreements are tailored to each FFRDC.

- **Contracts.** Following the approval of sponsoring agreements, primary sponsors may oversee the award of sole-source contracts or other agreements for the parent organizations to operate, manage, and administer the FFRDCs. The contracts provide a vehicle for DOD to assign work projects to each FFRDC and are considered the implementing tool for the sponsoring agreement.

  All 10 of the DOD-sponsored FFRDCs operate under cost-type contracts, with some differences in terms of associated fee arrangements.[13] The contracts for the FFRDCs vary in their structure. There is also a range of processes for placing projects on a contract, including by placing orders on an indefinite-delivery / indefinite-quantity (IDIQ) contract, making modifications and exercising option years on a contract.[14]

- **Comprehensive reviews.** Prior to extending a contract or sponsoring agreement with an FFRDC, the FAR requires that the primary sponsor conduct a comprehensive review of the use of and need for the FFRDC at least every 5 years.[15] The FAR describes elements that the comprehensive review should include, such as consideration of alternative sources and an assessment of the efficiency and effectiveness of the FFRDC in meeting the sponsor's needs. The FAR further requires that the head of the sponsoring agency approve whether to continue or terminate the sponsorship based on the results of the comprehensive review. In addition to the FAR, DODI 5000.77 requires that the comprehensive reviews include information such as

[12]See appendixes I through X for additional information on the FFRDCs and their respective parent organizations, contracting arrangements, obligations, and STE for individual FFRDCs.

[13]Under these types of contracts, the government pays allowable costs incurred by the contractor, to the extent prescribed by the contract, such as certain compensation costs for work performed. FAR § 16.301-1.

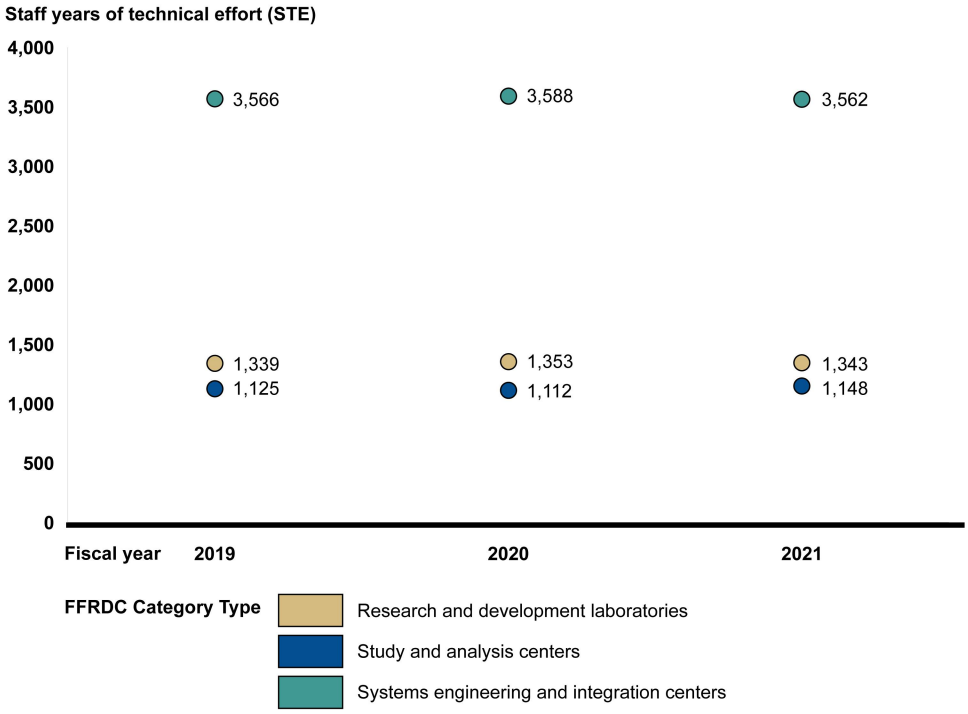
[14]An IDIQ contract provides for an indefinite quantity, within stated limits, of supplies or services during a fixed period. The government places orders for individual requirements. FAR § 16.504(a).

[15]FAR §§ 35.017-1, 35.017-4.

the results of performance assessments conducted during the contract period.

- **Projects.** FFRDCs initiate work on specific projects at the request of work sponsors. All work projects must fall within the scope of the FFRDC's mission, core competencies (i.e., areas of expertise or specialization), and capabilities. According to primary sponsors, the requested projects are prioritized based on how they align with mission priorities as well as overall DOD strategic priorities. According to DODI 5000.77, the primary sponsor approves these projects before they are placed on contract, and this approval is based on the determination that the work proposed is appropriate for the FFRDC and only that particular FFRDC can meet the work sponsor's needs. Additionally, the primary sponsor is to ensure that the FFRDC work efforts do not exceed available resources.
- **Resources.** One measure of available resources is known as STE, which is roughly equal to the work of one employee for 1 year. Congress typically sets an annual limit on the STE that may be used for all DOD-sponsored FFRDCs, with a specific limit set for study and analysis centers. For example, for fiscal year 2021, Congress set the STE limit to 6,053, of which 1,148 STE were directed for work performed by the study and analysis centers. These limits are set in annual defense appropriations legislation. OUSD(R&E) generally works with the primary sponsors to determine STE requirements and allocations once the overall annual limit is set. OUSD(R&E) submits STE requirements to Congress and annually reports STE usage and dollar obligations for each FFRDC. Figure 3 shows DOD's STE allocations for fiscal years 2019-2021.

Figure 3: STE Allocations for DOD-Sponsored Federally Funded Research and Development Centers, Fiscal Years 2019-2021



Source: GAO analysis of Department of Defense (DOD) annual reports to Congress. | GAO-22-105278

Data table for Figure 3: STE Allocations for DOD-Sponsored Federally Funded Research and Development Centers, Fiscal Years 2019-2021

Sum of Staff Years of Technical Effort (STE)	Laboratories	Studies and Analysis	Systems Engineering & Integration	Grand Total
2019	1,339.0	1,125.0	3,566.0	6,030.0
2020	1,353.0	1,112.0	3,588.0	6,053.0
2021	1,343.0	1,148.0	3,562.0	6,053.0

Source: GAO analysis of Department of Defense (DOD) annual reports to Congress | GAO-22-105278

DOD Analyzed Alternative Sources before Awarding Sole-Source Contracts for FFRDCs

We found that each primary sponsor conducted analyses and examined whether alternative sources could do the work of the FFRDC to justify the award of a sole-source contract. DODI 5000.77 requires primary

sponsors to conduct analyses of potential alternative sources to meet DOD's needs as part of the comprehensive reviews. According to this guidance, the alternative sources considered should include government personnel (either within DOD or other federal agencies), for-profit or nonprofit contractors, university-affiliated organizations, and other existing FFRDCs. The analyses should also include an explanation of why these alternative sources are unable to meet DOD's requirements as effectively as the FFRDC.

The primary sponsors took various approaches to analyze potential alternative sources to using the FFRDCs for DOD's specialized research and development needs, including:

- **Survey of work sponsors.** Four primary sponsors surveyed work sponsors to determine whether potential alternative sources could meet the work sponsors' needs. For example, the Carnegie Mellon University Software Engineering Institute (CMU SEI) primary sponsor asked 91 work sponsors what research into other potential sources they conducted before requesting support from the FFRDC. Their responses noted some efforts to seek alternative sources including internet searches, contacting known providers within DOD, and other FFRDCs. The respondents concluded that there were no feasible alternatives to CMU SEI. The MITRE National Security Engineering Center's (NSEC) primary sponsor survey of major stakeholders included a question designed to identify alternative sources, and respondents were asked to provide the specific reasons why these alternatives were not feasible. Ultimately, the primary sponsor concluded, based on the survey results, that MITRE NSEC possessed engineering and scientific expertise not available elsewhere.
- **Primary sponsor analysis.** Four primary sponsors conducted their own analyses to evaluate potential alternative sources. For example, the primary sponsor for RAND National Defense Research Institute (NDRI) convened its FFRDC management team to complete a multi-step internal analysis as part of its comprehensive review. The team analyzed alternative options including DOD and other government personnel, universities, for-profit and nonprofit organizations, and other FFRDCs. Based on the team's analysis, none of these options fulfilled all of the requirements met by RAND NDRI.
- **Independent technical panel.** The primary sponsor for the Massachusetts Institute of Technology Lincoln Laboratory (MIT LL) convened a panel of independent technical experts to consider alternative sources. This included an examination of any known organizations currently conducting or capable of conducting the

research program at the same level of performance. The panel then examined the ability of for-profit organizations, universities, other laboratories, and other FFRDCs to provide those capabilities. Based on the results, the primary sponsor concluded that MIT LL was unique in the comprehensiveness of capabilities it offered.

- **Third-party analysis.** As part of its 2021 comprehensive review, the primary sponsor for the Center for Naval Analyses (CNA) contracted with a third-party vendor to study potential alternative sources to accomplish the required current and future work for the Department of the Navy. The vendor first identified 1,645 potential alternatives. It then narrowed the candidate pool based on demonstration of a successful track record meeting similar requirements, whether they had past performance in similar research, and whether they had qualified personnel and subject matter expertise in at least one relevant area. Based on this screening, the vendor selected 21 potential alternatives for further review. Ultimately, the primary sponsor concluded that, while all 21 could provide the required skills and experience in their respective areas of expertise, no single candidate except CNA had all the competencies in one organization.

The FAR provides an exemption to full and open competition when awarding a contract to a particular source is necessary to establish or maintain an essential engineering, research, or development capability to be provided by an FFRDC.[16] Contracts awarded using this authority must be supported by a written J&A document.[17] We found that all the primary sponsors met the requirement of documenting the sole-source justification in the contract files.[18] Nine of the 10 J&A documents we reviewed included specific information from the comprehensive review. The J&A of the primary sponsor for CNA did not include detailed information from the comprehensive review. However, the sponsor noted that this document was, at the time, still in the review and approval process, and that no contract would be awarded until the approval took place. The primary sponsor concluded that CNA was the only entity that could satisfy all of DOD's current research needs in this instance. In the J&A, the primary sponsor further noted that if requirements underwent a

[16]FAR § 6.302-3

[17]FAR § 6.302-3(c).

[18]The IDA Center for Communications and Computing document that justifies sole-source selection is classified and is not included in our review. The MITRE NSEC FFRDC is managed using two contracts awarded by the Air Force and the Army. Each contract contains its own J&A document; therefore, our analysis reflects 10 J&A documents in total.

significant change, it would then consider additional efforts to identify potential alternative sources.

Our review of the 10 J&A documents found that primary sponsors provided varying insights as to whether competition would be feasible. Six of the 10 J&As we reviewed noted that other potential sources could meet some but not all of the requirements. Two of the 10 J&A documents indicated that the primary sponsors had no plans to compete the awards, noting the unique nature of their respective FFRDCs. One J&A document noted the primary sponsor's conclusion that no other contractor or FFRDC could bring the same level of expertise as had been accrued by the incumbent across an almost 70-year relationship with DOD. In another J&A document, the primary sponsor determined that it would evaluate each research assignment on a project-by-project basis to determine if alternative sources could satisfy the work sponsor's requirements.

Our analysis of the 10 J&A documents also identified the following common factors used in over half of the justifications:

- **Independence and freedom from conflict of interest.** This factor included the ability to operate in the public interest with objectivity and independence, and to be free from organizational and personal conflicts of interest, whether real, perceived, or potential.
- **Needs of sponsors and mission focus.** This factor included the ability to operate from a position of understanding the sponsor's core requirements as well as DOD's strategic priorities.
- **Quick response.** This factor included the ability to shift focus and provide quality response in the face of rapidly changing priorities.
- **Technology and knowledge base.** This factor included the extent to which the FFRDCs develop, use, and bring state-of-the-art technology to address sponsor needs as well as their ability to recruit and retain highly trained staff.

Our review of the J&A documents identified additional factors used to justify sole-source awards. These included the ability to access sensitive data, the long-standing relationships the FFRDCs maintained with their sponsoring organization—some dating back to the 1940s and 1950s—and staff continuity.

Primary Sponsors Measure FFRDC Performance Annually, but DOD Could Enhance Oversight

DODI 5000.77 assigns oversight responsibilities to both OUSD(R&E) and the primary sponsors for DOD-sponsored FFRDCs. The primary sponsors annually assess—as required—the performance of each FFRDC under their purview, generally using feedback from work sponsors, and take varying approaches to determining the effectiveness of the FFRDCs. OUSD(R&E), however, is not assured of access to all the information it might need to perform its oversight functions.

Primary Sponsors Measure FFRDC Performance Annually and Use Various Approaches to Determine Effectiveness

DODI 5000.77 requires primary sponsors to conduct annual assessments of FFRDC performance that address technical quality, responsiveness, value, and timeliness of the work performed. All primary sponsors in our review measure the performance of their FFRDCs at least annually. In most cases, primary sponsors and their program offices measure FFRDC performance by collecting work sponsor feedback. In some instances, primary sponsors measure performance by monitoring success in transferring the project or associated technology from the FFRDC to the commercial sector or back to DOD.

When feedback is used to measure performance, the work sponsors are asked to rate an FFRDC in areas such as general impact, responsiveness, working relationship, quality of documentation, the extent to which technical needs were met, adherence to schedule, and innovation. To collect these feedback data, primary sponsors used a survey or similar approach for nine of the 10 FFRDCs, with some variation in frequency, scope, and methodology. For example:

- The primary sponsor for Aerospace collects work sponsor feedback twice a year as part of its annual and midyear management review process. According to Air Force officials, the more frequent feedback allows for corrective actions while a project is still ongoing. Each work sponsor submits one performance feedback form, even if it is sponsoring multiple projects.

- The primary sponsor for IDA Systems and Analyses Center conducts annual work sponsor surveys of projects with one STE or more during the current fiscal year.
- The primary sponsor for MIT LL solicits customer feedback annually for projects greater than $150,000 in funding during the fiscal year. The primary sponsor currently uses a web-based electronic survey for unclassified projects and a semi-automated process for classified projects.
- The primary sponsor for CMU SEI uses an automated tool to collect feedback annually from work sponsors on their projects. The projects are evaluated such that a portion of the work sponsors are surveyed each quarter.
- The primary sponsor for IDA Center for Communications and Computing conducts an annual review that rates the FFRDC's performance. Primary sponsor officials engage with customers to evaluate the FFRDC on its technical and financial performance, as well as other areas.

The primary sponsor for RAND Arroyo Center is the only one that does not use work sponsor surveys to collect feedback. This primary sponsor uses the Contractor Performance Assessment Reporting System (CPARS) instead of work sponsor surveys as its principal means of conducting annual performance assessments. CPARS is a government-wide database for collecting past performance information for government contractors. According to RAND Arroyo Center program officials, they are using CPARS to meet the assessment requirement while they are revising their approach to collecting work sponsor feedback.

According to primary sponsors for seven FFRDCs, they use the feedback collected from work sponsors to improve FFRDC performance. When an FFRDC receives an unsatisfactory rating from a work sponsor, the primary sponsor coordinates with the work sponsor and the FFRDC to attempt to remediate the issue. For example, one primary sponsor stated that, if performance on a project is rated a three out of five or lower, it prompts discussion with the FFRDC of whether corrective actions are needed. In addition, primary sponsors are required to hold program review meetings in which they discuss the FFRDC's performance in the previous year. Based on the results of the review, they issue guidance for the following year and any recommended actions for improvement. All the primary sponsors include information from annual performance assessments in FFRDC comprehensive reviews, which occur at least once every 5 years.

Another method for measuring FFRDC performance involves tracking the transfer of technology or intellectual property from the FFRDCs to the government or the private sector. Primary sponsors for two FFRDCs told us they track such transfers. For example, the primary sponsor for Aerospace identifies the potential for a technology transfer when a project moves out of the development phase. According to Air Force officials, they conduct an internal review of technology transition activities identified during the comprehensive review process. The primary sponsor for MITRE NSEC also tracks the transfers of patents and intellectual property licensing from the FFRDC to the commercial sector, as well as the transition of the FFRDC's projects to other entities, and reports on these outcomes annually.

While the primary sponsors must include an assessment of the FFRDCs' effectiveness as part of the comprehensive review, primary sponsors for six FFRDCs told us they struggle with how to measure the effectiveness of the FFRDCs.[19] They noted that the effect of work performed might not be realized in the near term or could be difficult to quantify. In light of these challenges, the primary sponsors take varying approaches when determining FFRDC effectiveness. For example, as proxies for effectiveness, the primary sponsors use the results of project feedback surveys or the rate of technology transfer. In addition, two primary sponsors told us of initiatives, either currently underway or recently completed, intended to improve their understanding of the effectiveness of their FFRDCs:

- The primary sponsor for RAND Arroyo Center is developing a process for measuring return on investment from the FFRDC. As of March 2022, the primary sponsor is developing metrics and anticipates this initiative will take about 6 to 9 months to complete. The primary sponsor's goal is to measure both the performance and effectiveness of the FFRDC with information collected during a project and after it ends. Specifically, while projects are in process, the primary sponsor plans to survey work sponsors regarding interim deliverables. After completion, the primary sponsor plans to assess if the work led to a

[19]Per DODI 5000.77, a comprehensive review must include an assessment of an FFRDC's effectiveness in meeting work sponsors' needs, including at a minimum: (a) the quality and timeliness of the work produced; (b) the number and dollar value of projects assessed; (c) the work sponsor evaluations of performance; (d) results of performance reviews conducted during the current contract period; and (e) any criticisms or concerns with the FFRDC's performance and the steps taken to resolve those issues.

viable course of action and whether the findings helped inform senior leaders about a decision.

- The primary sponsor for CNA contracted with a third-party vendor to evaluate work sponsor feedback surveys submitted at the completion of each project and conducted in-person interviews with selected work sponsors. The evaluation further assessed the effectiveness of the FFRDC by obtaining perspectives from officials beyond the work sponsor—such as other Senior Navy officials familiar with FFRDC work—and also identified a growing need for CNA support related to information technology.

OUSD(R&E) Is Not Assured of Access to Information beyond the Comprehensive Reviews

We found that OUSD(R&E)'s visibility into the annual performance and information on the overall effectiveness of all 10 FFRDCs could potentially be limited to the comprehensive review approval process that occurs every 5 years. DODI 5000.77 requires the primary sponsors to conduct annual assessments of FFRDC performance that identify specific elements requiring improvement, which can include technical quality, responsiveness, value, and timeliness of the work performed. However, this instruction does not expressly establish a responsibility for OUSD(R&E) to receive—or primary sponsors to provide—this annual insight into the FFRDCs' performance and any other information regarding effectiveness, beyond the approval process for comprehensive reviews.

This contrasts with OUSD(R&E)'s guarantee of annual insight into the allocation of resources to the FFRDCs, which the primary sponsors are required by DODI 5000.77 to report to OUSD(R&E) each year. These allocations include both STE and corresponding dollars obligated. DODI 5000.77 also requires OUSD(R&E) to chair an annual meeting with primary sponsors and directors of the FFRDCs. However, the sole specified purpose of the meeting is to review DOD's strategy and priorities, rather than provide insight into the FFRDCs' performance and information regarding their effectiveness.

Under DODI 5000.77, OUSD(R&E) is responsible for developing and implementing policies and procedures to effectively operate and manage DOD's FFRDC program. According to *Standards for Internal Control in the Federal Government*, management should obtain and use quality information to achieve its objectives and establish monitoring activities to

evaluate performance and effectiveness in achieving key objectives.[20] In order to determine whether policies and procedures require updating—for example, to establish a consistent methodology for evaluating the effectiveness and impact of the FFRDCs—OUSD(R&E) needs a full and current understanding of how the FFRDCs are performing and the extent to which they are meeting DOD's needs.

OUSD(R&E) relies on the willingness of primary sponsors to share information outside the comprehensive review process. OUSD(R&E) officials noted that they successfully collect technical information on the results of the FFRDCs' research each year. This is one type of information that this office needs to determine the overall effectiveness of the FFRDC program. However, they have also encountered resistance to requests for additional information. For example, OUSD(R&E) officials restructured the template used to gather obligations and STE data from the primary sponsors in order to get greater visibility into activity at the project level. These data could help OUSD(R&E) identify potential duplicative work and opportunities to reallocate resources. While some primary sponsors provided data in the new format, others provided less detailed information in the old format. OUSD(R&E)'s visibility into other performance and effectiveness information could similarly be limited if a primary sponsor was reluctant to share these data. Assurance of access to annual performance and other relevant information concerning the effectiveness of all the FFRDCs would better position OUSD(R&E) to assess the extent to which the FFRDCs continue to support DOD's priorities.

Conclusions

FFRDCs perform unique functions and serve in critical support roles across DOD by providing objective expertise on complex scientific, technical, and analytic matters. Current policy, while providing annual insight into the allocation of resources to the FFRDCs, does not assure OUSD(R&E) visibility into the full performance and effectiveness of all the FFRDCs on an annual basis. Clearly establishing this responsibility in policy would guarantee OUSD(R&E) access to information it could then use to understand how the work of the FFRDCs aligns with DOD's priorities.

[20]GAO-14-704G.

Recommendation for Executive Action

The Secretary of Defense should ensure that in the next update to the DODI 5000.77, OUSD(R&E) revises its policy to require primary sponsors to provide performance and other relevant information about the effectiveness of the FFRDCs on an annual basis. (Recommendation 1)

Agency Comments

We provided a draft of this product to DOD for comment. DOD provided a letter response, reproduced in appendix XI. DOD concurred with the recommendation and provided technical comments which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, and the Secretary of Defense. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-4841 or SawyerJ@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix XII.

John D. Sawyer
Acting Director, Contracting and National Security Acquisitions

List of Committees

The Honorable Jack Reed
Chairman
The Honorable James M. Inhofe
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Jon Tester
Chairman
The Honorable Richard Shelby
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Adam Smith
Chairman
The Honorable Mike Rogers
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Betty McCollum
Chair
The Honorable Ken Calvert
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Information on Aerospace Federally Funded Research and Development Center (FFRDC)

Founded
1960

Parent Organization/ Contractor
The Aerospace Corporation

Location
El Segundo, CA

Primary Sponsor
Assistant Secretary of the Air Force, Acquisition, Technology and Logistics

Executive Agent for the Primary Sponsor
Commander, Space Systems Command

Defense Work Sponsors Include:

- Department of the Air Force
- Department of the Army
- Department of the Navy
- National Reconnaissance Office
- Office of the Secretary of Defense

Current Contract Information

Contract, awarded sole-source

How Projects Are Placed on Contract: via an annual modification to the contract

Type: Cost-Plus-Fixed-Fee

Awarded: September 2018

Total Value: approximately $12 billion

Period of Performance: 1-year base, nine 1-year options (October 2018-September 2028)

Contracting Office: Space Systems Command, El Segundo, CA

Total Defense Projects by Fiscal Year (FY)	Staff Years of Technical Effort by FY	Defense Obligations by FY
FY2021: 201	FY2021: 1,520	FY2021: $604.9 million
FY2020: 207	FY2020: 1,532	FY2020: $566.9 million
FY2019: 209	FY2019: 1,518	FY2019: $562.6 million

Background

This is a systems engineering and integration center. Along with the performance of research and development in the fields of space vehicles, launch, ground systems, and other space systems, the Aerospace FFRDC provides the national security space community with scientific and engineering support to launch, space, and ground, and advisory services in general engineering, systems engineering, systems integration, and technical support.

Core Competencies

(i.e., areas of expertise or specialization)

- Launch readiness verification
- Systems of systems engineering
- Systems development and acquisition
- Process implementation
- Technology application

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Information on CMU SEI Federally Funded Research and Development Center (FFRDC)

Founded
1984

Parent Organization/ Contractor
Carnegie Mellon University

Location
Pittsburgh, PA

Primary Sponsor
Deputy Chief Technology Officer for Science and Technology

Executive Agent for the Primary Sponsor
Director for Science and Technology Foundations

Current Contract Information

Indefinite-Delivery / Indefinite-Quantity contract, awarded sole-source

How Projects Are Placed on Contract: via task orders issued annually

Type: Cost-Reimbursement, No Fee

Awarded: July 2015

Total Value: approximately $1.7 billion

Period of Performance: 5-year base, 5-year option (July 2015-June 2025)

Contracting Office: Air Force Life Cycle Management Center, Strategic Services Division, Hanscom Air Force Base, MA

Total Defense Projects by Fiscal Year (FY)

FY2021: 195
FY2020: 218
FY2019: 222

Staff Years of Technical Effort by FY

FY2021: 203
FY2020: 206
FY2019: 199

Defense Obligations by FY

FY2021: $83.7 million
FY2020: $83.7 million
FY2019: $76.3 million

Defense Work Sponsors Include:

- Defense Intelligence Agencies
- Department of the Air Force
- Department of the Army
- Department of the Navy
- Office of the Secretary of Defense

Background

This is a research and development laboratory. The mission of the CMU SEI FFRDC is to help DOD set the requirements for and design, analyze, develop, integrate, verify, validate, and sustain software systems.

Core Competencies

(i.e., areas of expertise or specialization)

- Software engineering
- Systems engineering for software systems
- Cybersecurity and software assurance
- Computer science
- Mathematics
- Measurement of software systems
- Acquisition and lifecycle management of software systems

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Information on CNA Federally Funded Research and Development Center (FFRDC)

Founded
1962

Parent Organization/ Contractor
The CNA Corporation

Location
Arlington, VA

Primary Sponsor
Assistant Secretary of the Navy, Research, Development, and Acquisition

Executive Agent for the Primary Sponsor
Deputy Assistant Secretary of the Navy (Acquisition Policy & Budget)

Defense Work Sponsors Include:

- Defense Information Systems Agency
- Defense Threat Reduction Agency
- Department of the Air Force
- Department of the Army
- Department of the Navy (including Marine Corps)
- Joint Staff
- National Geospatial-Intelligence Agency
- Office of the Secretary of Defense
- Operational Test and Evaluation

Current Contract Information

Indefinite-Delivery / Indefinite-Quantity contract, awarded sole-source

How Projects Are Placed on Contract: via task or delivery orders issued by project

Type: Cost-Plus-Fixed-Fee

Awarded: December 2021

Total Value: approximately $1.2 billion

Period of Performance: 5-year base, five 1-year options (January 2022-December 2031)

Contracting Office: Office of Naval Research, Arlington, VA

Total Defense Projects by Fiscal Year (FY)

FY2021: 221
FY2020: 280
FY2019: 303

Staff Years of Technical Effort by FY

FY2021: 255
FY2020: 255
FY2019: 257

Defense Obligations by FY

FY2021: $95.6 million
FY2020: $95.6 million
FY2019: $95.3 million

Background

This is a study and analysis center. The primary function of the CNA FFRDC is to serve as a strategic, long-term analytic resource to the Department of the Navy. In 2020, the Navy established the FFRDC Program Management Office to centrally manage oversight responsibilities for the CNA FFRDC.

Core Competencies

(i.e., areas of expertise or specialization)

- Operations
- Policies, strategies, and doctrine
- System requirements and acquisition
- Resources
- Program planning

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Information on IDA Center for Communications and Computing Federally Funded Research and Development Center (FFRDC)

Founded
1958

Parent Organization/ Contractor
Institute for Defense Analyses

Location
Princeton, NJ; La Jolla, CA; and Bowie, MD

Primary Sponsor
National Security Agency (NSA), Research Directorate

Executive Agent for the Primary Sponsor
Director of Business Management and Acquisition

Defense Work Sponsors Include
(all within NSA):

- Computer Network Operations
- Cryptanalysis and Signals Analysis
- Cryptographic Algorithms and Assessments
- Mathematics Research Group
- Other Research Directorate Groups

Current Contract Information

Indefinite-Delivery / Indefinite-Quantity contract, awarded sole-source

How Projects Are Placed on Contract: N/A

Type: Cost-Plus-Fixed-Fee

Awarded: March 2016

Total Value: approximately $713 million

Period of Performance: 5-year base, 5-year option (March 2016– November 2025)

Contracting Office: Maryland Procurement Office, Ft. George G. Meade, MD

Total Projects by Fiscal Year (FY)

FY2021: N/A
FY2020: N/A
FY2019: N/A

Note: The work of this FFRDC is not organized around individual projects.

Staff Years of Technical Effort by FY

FY2021: 6
FY2020: 8
FY2019: 6

Defense Obligations by FY

FY2021: $1.8 million
FY2020: $2.4 million
FY2019: $1.8 million

Background

This is a research and development laboratory. The IDA Center for Communications and Computing FFRDC performs fundamental research in support of the NSA's mission in cryptology, which includes both foreign signals intelligence and protecting the communications of the U.S. government. Most of the FFRDC's work is directed toward intelligence-related efforts, with only a small portion for defense-related efforts.

Core Competencies

(i.e., areas of expertise or specialization)

- Fundamental research and development in cryptologic mathematics
- Computing sciences
- Computer network operations
- Cryptograph/cryptanalysis
- Advanced cryptanalytic computing, speech and signal analysis, cybersecurity
- Network security and exploitation

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Information on IDA Systems and Analyses Center Federally Funded Research and Development Center (FFRDC)

Founded
1956

Parent Organization/ Contractor
Institute for Defense Analyses

Location
Alexandria, VA

Primary Sponsor
Under Secretary of Defense for Acquisition and Sustainment

Executive Agent for the Primary Sponsor
Director, Acquisition Resources and Analysis

Defense Work Sponsors Include:

- Combatant Commands
- Defense Agencies
- Joint Program Offices
- Joint Staff
- National Guard Bureau
- Office of the Secretary of Defense

Current Contract Information

Indefinite-Delivery / Indefinite-Quantity contract, awarded sole-source

How Projects Are Placed on Contract: via task orders or modification to the orders and each project has its own contract line item number

Type: Cost-Plus-Fixed-Fee

Awarded: March 2019

Total Value: approximately $951 million

Period of Performance: 5-year base, 6-month option (March 2019–September 2024)

Contracting Office: Washington Headquarters Services – Acquisition Directorate, Alexandria, VA

Total Defense Projects by Fiscal Year (FY)

FY2021: 303
FY2020: 293
FY2019: 292

Staff Years of Technical Effort by FY

FY2021: 498
FY2020: 480
FY2019: 480

Defense Obligations by FY

FY2021: $174.7 million
FY2020: $160.8 million
FY2019: $149.9 million

Background

This is a study and analysis center. The IDA Systems and Analyses Center FFRDC assists the Office of the Secretary of Defense, the Joint Staff, the Combatant Commands, Defense Agencies, and others in addressing national security issues, particularly those requiring scientific and technical expertise. Its work includes providing modeling and simulation research related support, developing and demonstrating technologies focused on improving the quality and timeliness of data for decisions on managing of acquisition programs, completing tactical warfare systems studies, completing force and strategy assessments, and support in testing cyber operations in a hostile environment, among others.

Core Competencies

(i.e., areas of expertise or specialization)

- Systems and capabilities evaluations
- Technology assessments
- Force and strategy assessments
- Resource and support analyses

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Information on MIT LL Federally Funded Research and Development Center (FFRDC)

Founded
1951

Parent Organization/ Contractor
Massachusetts Institute of Technology

Location
Hanscom Air Force Base, MA

Primary Sponsor
Deputy Chief Technology Officer for Science and Technology

Executive Agent for the Primary Sponsor
Director for Science and Technology Foundations

Defense Work Sponsors Include:

- Defense Intelligence Agencies
- Department of the Air Force
- Department of the Army
- Department of the Navy
- Joint Staff
- Offices within the Secretary of Defense

Current Contract Information

Indefinite-Delivery / Indefinite-Quantity contract, awarded sole-source

How Projects Are Placed on Contract: via task orders issued annually

Type: Cost-Reimbursement, No Fee

Awarded: April 2015

Total Value: approximately $8.3 billion

Period of Performance: 5-year base, 5-year option (April 2015-March 2025)

Contracting Office: Air Force Life Cycle Management Center, Strategic Services Division, Hanscom Air Force Base, MA

Total Defense Projects by Fiscal Year (FY)

FY2021: 636
FY2020: 550
FY2019: 535

Staff Years of Technical Effort by FY

FY2021: 1,134
FY2020: 1,139
FY2019: 1,134

Defense Obligations by FY

FY2021: $726.5 million
FY2020: $630.2 million
FY2019: $563.6 million

Background

This is a research and development laboratory. The MIT LL FFRDC researches and develops advanced technologies to meet critical national security needs. Its core work is research and development across the range of electronic technologies, with particular emphasis on the application of the technologies to national defense problems.

Core Competencies

(i.e., areas of expertise or specialization)

- Solid-state electronics
- Radar
- Biological-chemical and optical sensors
- Signal processing
- Surveillance
- Communications
- Spacecraft
- Analog and digital integrated circuit technology
- Air traffic control
- Signal intercept technology
- High-energy laser-beam control
- Laser devices
- Optics
- Antennas
- Electromagnetic propagation
- Strategic and tactical systems countermeasures

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Information on MITRE NSEC Federally Funded Research and Development Center (FFRDC)

Founded
1958

Parent Organization/ Contractor
MITRE Corporation

Location
Bedford, MA and McLean, VA

Primary Sponsor
Deputy Chief Technology Officer for Science and Technology

Executive Agent for the Primary Sponsor
Director for Science and Technology Foundations

Current Contract Information

ARMY

Indefinite-Delivery / Indefinite-Quantity contract, awarded sole-source

How Projects Are Placed on Contract: via 15-month task or delivery orders

Type: Cost-Reimbursement

Awarded: September 2018

Total Value: approximately $6.6 billion

Period of Performance: 5-year base, 5-year option (October 2018-September 2028)

Contracting Office: Army Contracting Command, Aberdeen Proving Ground, MD

AIR FORCE

Contract, awarded sole-source

How Projects Are Placed on Contract: via 1-year options exercised at the beginning of each fiscal year

Type: Cost-Reimbursement

Awarded: August 2018

Total Value: approximately $5 billion

Period of Performance: 1-year base, nine 1-year options (October 2018-September 2028)

Contracting Office: Air Force Life Cycle Management Center, Strategic Services Division, Hanscom Air Force Base, MA

Defense Work Sponsors Include:

- Combatant Commands
- Defense Intelligence Agencies
- Department of the Air Force
- Department of the Army
- Department of the Navy
- Joint Staff
- Offices within the Secretary of Defense
- U.S. Space Force

Total Defense Projects by Fiscal Year (FY)

FY2021: 70 (Air Force), 247 (Army and others)
FY2020: 54 (Air Force), 248 (Army and others)
FY2019: 60 (Air Force), 258 (Army and others)

Note: Includes projects split into multiple efforts.

Staff Years of Technical Effort by FY

FY2021: 2,042
FY2020: 2,056
FY2019: 2,046

Defense Obligations by FY

FY2021: $777.4 million
FY2020: $751.7 million
FY2019: $715.5 million

Background

This is a systems engineering and integration center. The MITRE NSEC FFRDC's mission is to advance national security objectives by providing systems engineering support. It focuses on innovative strategies, concepts, technology applications, and their transfer into operational improvements. Since 1990, the MITRE NSEC FFRDC has been managed under two contracts. All Air Force projects are executed under the Air Force contract (approximately 40 percent of the FFRDC's efforts), while all other projects are executed under the Army contract (approximately 60 percent of the FFRDC's efforts).

Core Competencies

(i.e., areas of expertise or specialization)

- Knowledge management and enterprise systems engineering related to business systems, and command and control, surveillance, reconnaissance, weapon, cyber, and other national security capabilities
- Engineering processes, integration, cost-effective acquisition, and advanced manufacturing
- Range of technologies that underpin realization of objectives for rapid integration, interoperability, and information sharing

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Information on RAND Arroyo Center Federally Funded Research and Development Center (FFRDC)

Founded
1982

Parent Organization/ Contractor
RAND Corporation

Location
Santa Monica, CA

Primary Sponsor
Director, Center for Army Analysis, Modeling, and Simulation

Executive Agent for the Primary Sponsor
Deputy Director, Center for Army Analysis, Modeling, and Simulation

Current Contract Information

Indefinite-Delivery / Indefinite-Quantity contract, awarded sole-source

How Projects Are Placed on Contract: via task or delivery orders issued on a monthly basis

Type: Cost-Plus-Fixed-Fee

Awarded: September 2021

Total Value: approximately $453 million

Period of Performance: 4-year base, 5-year option (September 2021-September 2030)

Contracting Office: Army Contracting Command, Aberdeen Proving Ground, MD

Total Defense Projects by Fiscal Year (FY)

FY2021: 138
FY2020: 137
FY2019: 136

Note: Depending on start dates, projects may only be active for part of a particular FY.

Staff Years of Technical Effort by FY

FY2021: 99
FY2020: 96
FY2019: 103

Defense Obligations by FY

FY2021: $39.9 million
FY2020: $37.9 million
FY2019: $37.9 million

Defense Work Sponsors Include
(all within Army):

- Army Cyber Command
- Army Futures Command
- Army Materiel Command
- Assistant Secretary of the Army for Installation, Energy and Environment
- Assistant Secretary of the Army for Manpower and Reserve Affairs
- Deputy Chief of Staff for Programs

Background

This is a study and analysis center. The RAND Arroyo Center FFRDC's primary function is to broadly support the analytic requirements of the Army to help senior leadership make informed policy choices. It serves as the Army's primary FFRDC for studies and analyses.

Core Competencies

(i.e., areas of expertise or specialization)

- Forces and logistics
- Strategy, doctrine, and resources
- Personnel, training and health

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Information on RAND NDRI Federally Funded Research and Development Center (FFRDC)

Founded
1984

Parent Organization/ Contractor
RAND Corporation

Location
Santa Monica, CA

Primary Sponsor
Under Secretary of Defense for Acquisition and Sustainment

Executive Agent for the Primary Sponsor
Director, Acquisition Resources and Analysis

Defense Work Sponsors Include:

- Combatant Commands
- Defense Advanced Research Projects Agency
- Joint Staff
- Office of the Chief Information Officer
- U.S. Special Operations Command
- Under Secretary of Defense for Policy
- Under Secretary of Defense for Research and Engineering

Current Contract Information

Indefinite-Delivery / Indefinite-Quantity contract, awarded sole-source

How Projects Are Placed on Contract: via task orders or modification to the orders and each project has its own contract line item number

Type: Cost-Plus-Fixed-Fee

Awarded: December 2020

Total Value: approximately $417 million

Period of Performance: 5-year base, 6-month option (January 2021- June 2026)

Contracting Office: Washington Headquarters Services – Acquisition Directorate, Alexandria, VA

Total Defense Projects by Fiscal Year (FY)

FY2021: 289
FY2020: 290
FY2019: 295

Staff Years of Technical Effort by FY

FY2021: 169
FY2020: 158
FY2019: 158

Defense Obligations by FY

FY2021: $63.3 million
FY2020: $59.3 million
FY2019: $59.3 million

Background

This is a study and analysis center. The RAND NDRI FFRDC was established to support research efforts to serve the long-range analytic needs of various offices and components within the Department of Defense.

Core Competencies

(i.e., areas of expertise or specialization)

- Global security
- Security cooperation
- Homeland defense and national security
- Strategy and operations
- Emerging technologies

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Information on RAND PAF Federally Funded Research and Development Center (FFRDC)

Founded
1948

Parent Organization/ Contractor
RAND Corporation

Location
Santa Monica, CA

Primary Sponsor
Assistant Secretary of the Air Force, Acquisition, Technology and Logistics

Executive Agent for the Primary Sponsor
Headquarters Air Force Studies, Analyses, and Assessments

Current Contract Information

Indefinite-Delivery / Indefinite-Quantity contract, awarded sole-source

How Projects Are Placed on Contract: via task or delivery orders issued by project

Type: Cost-Reimbursement

Awarded: October 2021

Total Value: approximately $347 million

Period of Performance: 5-year base, 6-month option (October 2021-March 2027)

Contracting Office: Air Force District of Washington, Joint Base Andrews, MD

Total Defense Projects by Fiscal Year (FY)

FY2021: 59
FY2020: 52
FY2019: 60

Note: Officials could not provide the quantity of multiyear projects.

Staff Years of Technical Effort by FY

FY2021: 127
FY2020: 123
FY2019: 127

Defense Obligations by FY

FY2021: $49.6 million
FY2020: $46.3 million
FY2019: $47.5 million

Defense Work Sponsors Include
(all within Air Force):

- Air Force Materiel Command
- Air Force Special Operations Command
- Offices within the Secretary of the Air Force
- Offices within the Vice Chief of Staff for the Air Force
- U.S. Space Force

Background

This is a study and analysis center. The RAND PAF FFRDC's mission is to conduct a continuous integrated program of objective analysis on major crosscutting policy and management issues of enduring concern to the Department of the Air Force.

Core Competencies

(i.e., areas of expertise or specialization)

- Strategy and doctrine
- Force modernization and employment
- Resource management
- Workforce, development, and health
- Integrated research

Source: GAO analysis of Department of Defense documents and interviews. | GAO-22-105278

Appendix XI: Comments from the Department of Defense

DEPUTY UNDER SECRETARY OF DEFENSE
3030 DEFENSE PENTAGON
WASHINGTON, DC 20301-3030

RESEARCH
AND ENGINEERING

14 June 2022

Mr. John Sawyer
Acting Director, Contracting and National Security Acquisitions
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Sawyer:

Attached is the Department of Defense (DoD) response to the Government Accountability Office (GAO) Draft Report GAO-22-105278, "Federal Research Centers: Revising DoD Oversight Policy Could Assure Access to Performance and Effectiveness Information," dated April 20, 2022 (GAO Code 105278). My point of contact is Dr. Joan Fuller, Director, Federally Funded Research and Development Center and University Affiliated Research Center Policy, who can be reached at 571-232-2463 or joan.fuller6.civ@mail.mil.

Sincerely,

HONEY.DAVID.A.1044947591 Digitally signed by HONEY.DAVID.A.1044947591 Date: 2022.06.14 18:02:07 -04'00'

David A. Honey, PhD
Deputy Under Secretary of Defense
for Research and Engineering

Enclosure:
As stated

GOVERNMENT ACCOUNTABILITY OFFICE DRAFT REPORT
DATED APRIL 21, 2022
GAO-22-105278 (GAO CODE 105278)

"FEDERAL RESEARCH CENTERS: REVISING DOD OVERSIGHT POLICY COULD ASSURE ACCESS TO PERFORMANCE AND EFFECTIVENESS INFORMATION"

DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATION

RECOMMENDATION 1: The Government Accountability Office recommends that the Secretary of Defense should ensure that in the next update of Department of Defense Instruction (DoDI) 5000.77, the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) should revise its policy to require primary sponsors to provide performance and other relevant information about the effectiveness of the Federally Funded Research and Development Centers (FFRDC) on an annual basis.

DEPARTMENT OF DEFENSE (DoD) RESPONSE: DoD concurs with the recommendation and will include this as a new reporting requirement in the next update of DoDI 5000.77 and as part of USD(R&E)'s annual meeting with the FFRDC directors and primary sponsors. DoD anticipates the next substantive revision to DoDI 5000.77 to begin in fiscal year (FY) 2023, with the final issuance being released in FY 2025. Language was included in the 2021 DoD Appropriation Bill Report that now requires the Secretary of Defense to notify Congress prior to making any changes to DoDI 5000.77. DoD anticipates that this notification requirement will extend several months past the typical 18-month coordination timeline for issuing the revised DoDI. In the interim, USD(R&E) will implement the new policy as part of the requirement for the FY 2022 FFRDC annual director's meeting.

Text of Appendix XI: Comments from the Department of Defense

Mr. John Sawyer

Acting Director, Contracting and National Security Acquisitions

U.S. Government Accountability Office 441 G Street, NW

Washington, DC 20548

Dear Mr. Sawyer:

Attached is the Department of Defense (DoD) response to the Government Accountability Office (GAO) Draft Report GAO-22-105278, “Federal Research Centers: Revising DoD Oversight Policy Could Assure Access to Performance and Effectiveness Information,” dated April 20, 2022 (GAO Code 105278). My point of contact is Dr. Joan Fuller, Director, Federally Funded Research and Development Center and University Affiliated Research Center Policy, who can be reached at 571-232-2463 or joan.fuller6.civ@mail.mil.

Sincerely,

David A. Honey, PhD

Deputy Under Secretary of Defense for Research and Engineering

Enclosure: As stated

GOVERNMENT ACCOUNTABILITY OFFICE DRAFT REPORT DATED APRIL 21, 2022 GAO-22-105278 (GAO CODE 105278) "FEDERAL RESEARCH CENTERS: REVISING DOD

OVERSIGHT POLICY COULD ASSURE ACCESS TO PERFORMANCE AND EFFECTIVENESS INFORMATION"

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATION

RECOMMENDATION 1:

The Government Accountability Office recommends that the Secretary of Defense should ensure that in the next update of Department of Defense Instruction (DoDI) 5000.77, the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) should revise its policy to require primary sponsors to provide performance and other relevant information about the effectiveness of the Federally Funded Research and Development Centers (FFRDC) on an annual basis.

DEPARTMENT OF DEFENSE (DoD) RESPONSE:

DoD concurs with the recommendation and will include this as a new reporting requirement in the next update of DoDI 5000.77 and as part ofUSD(R&E)'s annual meeting with the FFRDC directors and primary sponsors. DoD anticipates the next substantive revision to DoDI 5000.77 to begin in fiscal year (FY) 2023, with the final issuance being released in FY 2025. Language was included in the 2021 DoD Appropriation Bill Report that now requires the Secretary of Defense to notify Congress prior to making any changes to DoDI 5000.77. DoD anticipates that this notification requirement will extend several months past the typical 18-month coordination timeline for issuing the revised DoDI. In the interim, USD(R&E) will implement the new policy as part of the requirement for the FY 2022 FFRDC annual director's meeting.

Appendix XII: GAO Contact and Staff Acknowledgments

GAO Contact

John D. Sawyer (202) 512-4841 or SawyerJ@gao.gov

Staff Acknowledgments

In addition to the contact named above, Robert Bullock (Assistant Director), Anh Nguyen (Analyst-in-Charge), Robert Bastian, Breanne Cave, Lori Fields, Margaret Fisher, Nicolaus Heun, Miranda Riemer, Edward J. SanFilippo, and Alyssa Weir made key contributions to this report.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through our website. Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. You can also subscribe to GAO's email updates to receive notification of newly posted products.

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, https://www.gao.gov/ordering.htm.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

Connect with GAO

Connect with GAO on Facebook, Flickr, Twitter, and YouTube.
Subscribe to our RSS Feeds or Email Updates. Listen to our Podcasts.
Visit GAO on the web at https://www.gao.gov.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact FraudNet:

Website: https://www.gao.gov/about/what-gao-does/fraudnet

Automated answering system: (800) 424-5454 or (202) 512-7700

Congressional Relations

A. Nicole Clowers, Managing Director, ClowersA@gao.gov, (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548

Strategic Planning and External Liaison

Stephen J. Sanford, Managing Director, spel@gao.gov, (202) 512-4707
U.S. Government Accountability Office, 441 G Street NW, Room 7814,
Washington, DC 20548

Please Print on Recycled Paper.