



# NSF Survey of Federal Funds for Research and Development

Volume 69 (FYs 2019–20)

DOD version



## Instructions

### Data Collection Authority and Uses

The legislation that established the National Science Foundation Act of 1950 (42 U.S. Code. 1862, P.L. 87-835) requires that NSF “...provide a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering resources, and to provide a source of information for policy formulation by other agencies of the Federal Government...”

This mandate was further codified in the America COMPETES Reauthorization Act of 2010 §505, which requires NSF’s National Center for Science & Engineering Statistics to “collect, acquire, analyze, report, and disseminate... statistical data on (A) research and development trends...”

The annual Survey of Federal Funds for Research and Development (Federal Funds Survey) is the primary source of information about federal funding for R&D in the United States. The results of the survey are also used in the calculation of Gross Domestic Product, for analysis in public policy and science policy, and for budget purposes of four federal programs: Federal Laboratory Consortium for Technology Transfer, Small Business Innovation Research (SBIR), Small Business Technology Transfer (STTR), and Established Program to Stimulate Competitive Research (EPSCOR). The survey is sponsored by the National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation (NSF).

### Before You Start

This volume 69 survey is similar to the previous year’s volume 68 survey:

- Estimates for FY 2021 are not requested in volume 69. Tables and columns which have traditionally asked for the third-year budget estimates have been grayed out.
- Development obligations are again being specifically collected for Advanced Technology Development (Budget Activity [BA] 3), Major Systems Development (BA 4–6), and Operational Systems Development (BA 7). Therefore, the rows or columns added for volume 66 on Tables 1, 2, 6, 7, 9, 10, and Table 12C have been retained for this volume.

Please give special attention to the following items when completing the survey:

1. Complete your submission prior to the **May 1, 2020**, deadline.
2. Report actual dollars for all amounts. Wherever possible please use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.
3. The data that you submit to the survey should be consistent with the data that your agency submitted to the Office of Management and Budget (OMB) for FY 2019 and FY 2020. Do not wait for later markups or revisions. NCSES understands that the data for FY 2020 will be preliminary. In Tables 1A and 1B, explain any differences between outlays



reported in this survey and those reported to OMB. If your agency’s report to OMB is not available to you, please note why in the tables’ comment section.

4. Verify that all research and development activities are included in your Federal Funds Survey data submission, whether they are represented by a specific R&D appropriation or as parts of other appropriations. Include all federal funds available to an agency that the agency received or expects to receive from direct appropriations, trust funds, special account receipts, corporate income, fees and charges, funds appropriated by the Congress, and other federal sources.
5. If you report any extramural funds on Tables 6 or 7, then you may also have some federal intramural funds to report on these tables if your agency spends funds, at least for staff time, to administer the extramural R&D contract programs. The management and distribution of funds for R&D grants to extramural performers should not be included as R&D.
6. In the comment boxes for the appropriate tables, provide the reasons for ANY changes in your obligation levels from those reported in the previous cycle’s survey for type of RDT&E (basic research [BA 1], applied research [BA 2], advanced technology development [BA 3], major systems development [BA 4–6], and operational systems development [BA 7], R&D plant, fields of science and engineering, or performers.
7. If your agency obligated any funds to a Federally Funded Research and Development Center (FFRDC), report data on Table 9. If no RDT&E funds were obligated for your sponsored FFRDC for FY 2019, please explain why not in the comment box.

### What is Research and Development?

**Research and experimental development (R&D)** comprise creative and systematic work undertaken in order to increase the stock of knowledge—including knowledge of people, culture, and society—and to devise new applications using available knowledge.

- **R&D aims at new findings (novel)**
  - It has not been done before
  - It may produce findings that could be published in academic journals
  - It includes ideas that could be patented
- **R&D focuses on original concepts or ideas (creative)**
  - Increases our knowledge of the subject
  - Helps create new products or applications
- **R&D outcomes are uncertain (because it has not been done before)**
  - Solutions are not always obvious or expected
  - Uncertain about, cost, time, or ability to achieve results



- **R&D is planned and budgeted (systematic)**
  - Projects, processes, and outcomes are documented
  - Projects are planned and managed
- **R&D results in solutions that others may find useful (transferable)**
  - Findings can be generalized to other situations and locations
  - Findings are reproducible
- **What is NOT R&D?**
  - Administrative costs for extramural grant programs
  - Investments in physical assets such as major equipment and facilities that support R&D programs (These investments should be reported under R&D plant.)
  - Program planning and evaluation
  - Business development services for new companies
  - Commercialization (includes promoting/producing the products/services from R&D projects)
  - Economic/policy/feasibility studies
  - Information systems
  - Management studies
  - Marketing of products/services
  - Market research or analysis
  - Routine data collection/dissemination
  - Routine monitoring/testing
  - Strategic planning
  - Technology transfer

### Contact Information

Please provide complete contact information for both the survey respondent and associated supervisor. You can also enter contact information for an alternate respondent.

### Table by Table Instructions

**Table 1** is for reporting outlays only.

- **Outlays** reported in this survey should be consistent with amounts in The Budget of the United States Government. The same definitions are used for both.

Outlays represent the amounts for checks issued, cash payments, and electronic transfer of funds made to liquidate a federal obligation during a given period, regardless of when the funds were appropriated.



The amounts shown for each year reflect outlays for that year regardless of when the funds were originally authorized or received and regardless of whether or not they were originally appropriated, received, or identified in the agency’s budget specifically for research, development, or R&D plant.

- Outlays cover all transactions that occurred in a given fiscal year, and those estimated for the next fiscal year.
- Include all federal funds available to an agency that the agency received or expects to receive from direct appropriations, trust funds, and special account receipts, corporate income, fees and charges, funds appropriated by the Congress, and other federal sources.
- Include the full costs of R&D, both specific project costs and overhead costs. Include for both intramural and extramural R&D programs: costs of planning and administering of R&D, laboratory overhead, pay of military personnel, and departmental administration, **and include funds your agency transferred to other agencies for R&D.**
- Outlays for R&D performed for an agency in foreign countries include all funds available to the agency for this purpose.
- **Do not include funds your agency received from another federal agency.** The transferring agency will report those funds. Similarly, a subdivision of an agency reports the funds it transfers to another subdivision within that agency as its own.
- **R&D:** Research and experimental development (R&D) activities are defined as creative and systematic work undertaken in order to increase the stock of knowledge—including knowledge of people, culture, and society—and to devise new applications using available knowledge.

For reporting R&D activities, include the following:

- Administrative expenses for R&D, such as the operating costs of research facilities and equipment and other overhead costs.

Exclude:

- Investments in physical assets such as major equipment and facilities that support R&D programs. These investments should generally be reported under R&D Plant (see Tables 1, 1B, 2, 9, 11, and 13).
- Routine product testing, quality control, collection of general-purpose statistics, routine monitoring, and evaluation of an operational program (when that program is not R&D).



- Training of scientific and technical personnel (this is considered conduct of education and training, not R&D).
- **RDT&E:** The RDT&E budget activities are broad categories reflecting different types of RDT&E efforts, which include Basic Research (BA 1); Applied Research (BA 2); Advanced Technology Development (ATD) (BA 3); Major Systems Development, which includes Advanced Component Development and Prototypes (ACD&P) (BA 4), System Development and Demonstration (SDD) (BA 5), and RDT&E Management Support (BA 6); and Operational Systems Development (BA 7). The definitions of these categories are established by Department of Defense Instruction 5000.02, “Operation of the Defense Acquisition System.” For more information, see Budget Activities 1 through 7 in the DOD Financial Management Regulation (FMR), Volume 2B, Chapter 5, at –

[http://comptroller.defense.gov/Portals/45/documents/fmr/Volume\\_02b.pdf](http://comptroller.defense.gov/Portals/45/documents/fmr/Volume_02b.pdf).

- **R&D plant:** R&D plant is defined as spending on both R&D facilities and major equipment as defined in Office of Management and Budget (OMB) Circular A-11 Section 84 (Schedule C) and includes physical assets, such as land, structures, equipment, and intellectual property (e.g., software or applications) that have an estimated useful life of 2 years or more. Reporting for R&D plant includes the purchase, construction, manufacture, rehabilitation, or major improvement of physical assets regardless of whether the assets are owned or operated by the Federal Government, States, municipalities, or private individuals. The cost of the asset includes both its purchase price and all other costs incurred to bring it to a form and location suitable for use.

For reporting construction of R&D facilities and major moveable R&D equipment, include the following:

- Construction of facilities that are necessary for the execution of an R&D program. This may include land, major fixed equipment, and supporting infrastructure such as a sewer line, or housing at a remote location. Many laboratory buildings will include a mixture of R&D facilities and office space. The fraction of the building that is considered to be R&D may be calculated based on the percentage of square footage that is used for R&D.
- Acquisition, design, or production of major moveable equipment, such as mass spectrometers, research vessels, DNA sequencers, and other moveable major instrumentation for use in R&D activities.
- Programs of \$1 million or more that are devoted to the purchase or construction of R&D major equipment.

Exclude the following:

- Construction of other non-R&D facilities.



- Minor equipment purchases, such as personal computers, standard microscopes, and simple spectrometers (report these costs under total R&D, not R&D Plant).

Obligations for **foreign R&D plant** are limited to federal funds for facilities that are located abroad and used in support of foreign R&D.

### Tables 1A and 1B—Narratives for Reconciliation of R&D Outlays and R&D Plant Outlays with Amounts Reported to OMB

Office of Management and Budget (OMB) Circular A-11, Section 84, also called MAX Schedule C, is a mandatory report that collects data from federal agencies for the Budget of the U.S. Government. In this report, federal agencies provide OMB with data on their outlays for R&D by type of R&D and R&D plant. However, the information provided does not provide as much detail on type of R&D or performers as the Federal Funds Survey, and it provides no information on fields of science and engineering or geographic distribution. Because the Federal Funds Survey and the OMB report use the same definitions and guidelines, certain items, such as Total Outlays for R&D and Total Outlays for R&D Plant or Facilities, should be the same.

<https://www.whitehouse.gov/wp-content/uploads/2018/06/s84.pdf>

As noted in OMB Circular A-11, Section 84.3(g): You should be able to reconcile information reported in this schedule for the conduct of R&D with information reported in the National Science Foundation’s Survey of Federal Funds for R&D. R&D spending reported in Schedule C should also be consistent with financial reporting on R&D as required by A-136, Section II.4.10 and the Statement of Federal Financial Accounting Standards 8, Chapter 7.

If there are differences between the data submitted for the Federal Funds Survey and for the OMB report, each reporting agency or subdivision should provide an explanation for differences in total R&D and total R&D plant outlays. NOTE: If your agency’s report to OMB is not available to you, please note why in the comment section below.

**Table 2** is for reporting obligations only.

- **RDT&E, by Type of RDT&E:** If you cannot assign a project’s obligations precisely across the available categories, please use your best judgment to allocate the obligations. Or, assign the obligations to the category most appropriate to the type of work you are funding.

Type of R&D has three components for non-DOD respondents: basic research, applied research, and experimental development.

- **Basic research:** Basic research is defined as experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts. Basic research may include activities with broad or general applications in mind, such as the study of how plant genomes change, but should exclude research directed towards a specific application or



requirement, such as the optimization of the genome of a specific crop species. Basic research represents Department of Defense Budget Activity 1.

- **Applied research:** Applied research is defined as original investigation undertaken in order to acquire new knowledge. Applied research is, however, directed primarily towards a specific practical aim or objective. Applied research represents Department of Defense Budget Activity 2.
- **Experimental development:** Experimental development is defined as creative and systematic work, drawing on knowledge gained from research and practical experience, which is directed at producing new products or processes or improving existing products or processes. Like research, experimental development will result in gaining additional knowledge.

For reporting experimental development activities, include the following:

- The production of materials, devices, and systems or methods, including the design, construction, and testing of experimental prototypes.
- Technology demonstrations, in cases where a system or component is being demonstrated at scale for the first time, and it is realistic to expect additional refinements to the design (feedback R&D) following the demonstration. However, not all activities that are identified as “technology demonstrations” are R&D.

Exclude:

- User demonstrations where the cost and benefits of a system are being validated for a specific use case. This includes low-rate initial production activities.
- Pre-production development, which is defined as non-experimental work on a product or system before it goes into full production, including activities such as tooling and development of production facilities. These obligations are requested separately in this survey as Operational Systems Development from DOD’s Budget Activity 7 as part of data collection on RDT&E but excluded from Total R&D Budget Activities 1–6 (see below).

For DOD Agencies, development itself is divided into three categories: advanced technology development, major systems development, and operational systems development.

**Advanced technology development:** This category is used for activities in DOD’s Budget Activity 3. For more information, see Budget Activity 3 on pages 5-4 and 5-5 of the DOD Financial Management Regulation (FMR), Volume 2B, Chapter 5, at –

[http://comptroller.defense.gov/Portals/45/documents/fmr/Volume\\_02b.pdf](http://comptroller.defense.gov/Portals/45/documents/fmr/Volume_02b.pdf).



**Major systems development:** This category is used for activities in DOD’s Budget Activities 4 through 6. For more information, see Budget Activities 4 through 6 on page 5-5 of the DOD Financial Management Regulation (FMR), Volume 2B, Chapter 5 at –

[http://comptroller.defense.gov/Portals/45/documents/fmr/Volume\\_02b.pdf](http://comptroller.defense.gov/Portals/45/documents/fmr/Volume_02b.pdf).

NOTE: As of this FY 2016 data collection, major systems development no longer includes Budget Activity 7.

**Operational systems development:** This category is used for activities in DOD’s Budget Activity 7. For more information, see Budget Activity 7 on page 5-6 of the DOD Financial Management Regulation (FMR), Volume 2B, Chapter 5 at

[http://comptroller.defense.gov/Portals/45/documents/fmr/Volume\\_02b.pdf](http://comptroller.defense.gov/Portals/45/documents/fmr/Volume_02b.pdf).

- **Obligations** reported in this survey should be consistent with amounts in The Budget of the United States Government. The same definitions are used for both.

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.

- Include direct appropriations, trust funds, special account receipts, corporate income, fees and charges, funds appropriated by the Congress, and other federal sources.
  - Report the year of the obligation regardless of when the funds were originally authorized, received, appropriated, or identified as research, development, or R&D plant.
  - Include the full costs of R&D, both specific project costs and overhead costs. Include for both intramural and extramural R&D programs: costs of planning and administering R&D, laboratory overhead, pay of military personnel, departmental administration, **and include funds your agency transferred to other agencies for R&D.**
  - Obligations for R&D performed for an agency in foreign countries include all funds available to the agency for this purpose.
  - **Do not include funds your agency received from another federal agency.** The transferring agency will report those funds. Similarly, a subdivision of an agency reports the funds it transfers to another subdivision within that agency as its own.
- See other definitions under Table 1.



**Tables 3, 4, and 5** are for reporting obligations for research by fields of science and engineering. Please do not complete Table 5 for volume 69.

Please make every effort to allocate obligations to a specific discipline rather than use the “other” category. If specific allocation is not feasible, however, obligations reported under the other category should be identified in an explanatory note. In reporting obligations for activities concerned with interdisciplinary studies, funds must not be double counted.

- **Fields of Science and Engineering** in this survey consist of eight broad field categories, each consisting of a number of detailed fields. The broad fields are computer sciences and mathematics, engineering, environmental sciences, life sciences, physical sciences, psychology, social sciences, and other sciences not elsewhere classified. The following list presents the detailed fields grouped under each of the broad fields, together with illustrative disciplines of detailed fields.

“Other” includes

- projects within a broad field
- single-discipline projects for which a separate field has not been assigned

The illustrative disciplines are intended to be guidelines, not sharp definitions. Research in biochemistry, for example, might be reported as biological, agricultural, or medical, depending on the focus of the project. Human biochemistry would be classified under biological, but animal biochemistry or plant biochemistry would fall under agricultural.

Do not report research under more than one field. No double counting is intended or allowed.

- **Computer sciences and mathematics**
  - **Computer sciences:** Computer sciences, data manipulation, data storage, design or development of computer capabilities, information sciences, information systems, programming languages, systems analysis
  - **Mathematics:** Algebra, analysis, applied mathematics, foundations, geometry, logic, numerical analysis, statistics, topology
  - **Other computer sciences and mathematics**
- **Engineering**
  - **Aeronautical engineering:** Aerodynamics
  - **Astronautical engineering:** Aerospace, space technology
  - **Chemical engineering:** Petroleum, petroleum refining process



- **Civil engineering:** Architectural engineering, environmental engineering, hydraulic engineering, hydrologic engineering, marine engineering, sanitary engineering, structural engineering, transportation
- **Electrical engineering:** Communications engineering, electronic engineering, power engineering
- **Mechanical engineering:** Engineering mechanics
- **Metallurgy and materials engineering:** Ceramic engineering, mining, textile engineering, welding
- **Other engineering:** Agricultural engineering, bioengineering, biomedical engineering, industrial engineering, management engineering, nuclear engineering, ocean engineering, systems engineering
- **Environmental sciences**
  - **Atmospheric sciences:** Aeronomy, extraterrestrial atmospheres, meteorology, solar science, terrestrial atmospheres, weather modification
  - **Geological sciences:** Cartography, engineering geophysics, general geology, geodesy, geomagnetism, gravity, hydrology, inorganic geochemistry, isotopic geochemistry, laboratory geophysics, organic geochemistry, paleomagnetism, paleontology, physical geography, seismology
  - **Oceanography:** Biological oceanography, chemical oceanography, marine geophysics, physical oceanography
  - **Other environmental sciences**
- **Life sciences**

Report under oceanography if study is about life in the sea or other bodies of water.

  - **Agricultural sciences:** Agronomy, animal sciences, fish and wildlife, food science and technology, forestry, general agriculture, horticulture, phytopathology, phytoproduction, plant sciences, soils and soil science
  - **Biological sciences (excluding environmental biology):** Anatomy, biochemistry, biology, biometry, biophysics, biostatistics, botany, cell biology, entomology, genetics, microbiology, neuroscience (biological), nutrition, parasitology, physiology, zoology
  - **Environmental biology:** Biotic community, ecosystem sciences, evolutionary biology, limnology, physiological ecology, population biology, population ecology, systematic biology



- **Medical sciences:** Dentistry, internal medicine, neurology, obstetrics and gynecology, ophthalmology, otolaryngology, pathology, pediatrics, pharmacology, pharmacy, preventive medicine, psychiatry, radiology, surgery, veterinary medicine
- **Other life sciences**
- **Physical sciences**
  - **Astronomy:** Gamma-ray astronomy, laboratory astrophysics, neutrino astronomy, optical astronomy, radio astronomy, theoretical astrophysics, X-ray astronomy
  - **Chemistry:** Inorganic chemistry, organic chemistry, organometallic chemistry, physical chemistry
  - **Physics:** Acoustics, atomic physics, condensed-matter physics, elementary particle physics, molecular physics, nuclear structure, optics, plasma physics
  - **Other physical sciences**
- **Psychology** deals with behavior, mental processes, and individual and group characteristics and abilities. Psychology in this survey is divided into three categories: biological aspects, social aspects, and other psychological sciences. Examples of the disciplines under each of these fields are as follows:
  - **Biological aspects:** Animal behavior, clinical psychology, comparative psychology, ethology, experimental psychology
  - **Social aspects:** Development, educational, engineering psychology, industrial psychology, personality, personnel, social psychology, testing, vocational psychology
  - **Other psychological sciences**
- **Social sciences**
  - **Anthropology:** Applied anthropology, archaeology, cultural anthropology, ethnology, personality, social anthropology
  - **Economics:** Agricultural economics, econometrics, economic statistics, economic systems and development, economic theory, history of economic thought, industrial economics, international economics, labor economics, macroeconomics, microeconomics, public finance and fiscal policy
  - **Political science:** Area studies, regional studies, comparative government, history of political ideas, international law, international relations, national political and legal systems, political theory, public administration



- **Sociology:** Comparative sociology, complex organizations, culture and social structure, demography, group interactions, historical sociology, social problems, social welfare, sociological theory
- **Other social sciences:** Linguistics, research in education, research in history, research in law (e.g., how legal systems and practices impact society), socioeconomic geography
- **Other sciences not elsewhere classified:** Interdisciplinary studies, multidisciplinary studies, studies that cannot be classified in one of the fields of science above

**Tables 6, 7, and 8** cover reporting obligations by performer and type of RDT&E. Please do not complete Table 8 for volume 69.

(NOTE: The instructions for Table 6A follow this section.)

Personnel costs are a subset of Federal Intramural costs. Personnel costs are for identification of obligations for intramural personnel services and related allowances. Such obligations cover salaries for scientists, engineers, and other intramural support personnel, including planning and administrative personnel.

Report obligations to business or industrial firms, universities and colleges, and nonprofit institutions separately from the obligations to FFRDCs administered by those performers.

Definitions for these tables include:

- **Businesses or industrial firms:** This category of performer includes business (for-profit).
- **Federally Funded Research and Development Centers (FFRDCs):** This category includes R&D-performing organizations that are exclusively or substantially financed by the federal government. Your department or agency may sponsor or otherwise support an FFRDC in support of R&D that furthers your mission. The survey requests that you report FFRDC obligations separately for the type of organization that administers the FFRDC— industrial firm, university or college, or nonprofit institution. To view the list of current FFRDCs, please see the Master Government List of Federally Funded R&D Centers at <https://www.nsf.gov/statistics/ffrdclist/>, and for more information, the FFRDC general notes at <https://www.nsf.gov/statistics/ffrdclist/#gennotes>. (Additional information concerning FFRDCs is found in the reporting guidelines for Table 9.)
- **Foreign performers:** This category includes citizens, organizations, universities and colleges, governments of other nations, and international organizations located outside the United States who are performing R&D with support from federal funds. In most cases, foreign-owned organizations performing R&D in the United States are not reported here.

Excluded from the survey are U.S. agencies, U.S. organizations, or U.S. citizens performing R&D abroad for the federal government. Examples of foreign performers



include: North Atlantic Treaty Organization (NATO), United Nations Educational, Scientific, and Cultural Organization (UNESCO), World Health Organization (WHO).

Care should be taken to report foreign performance only once. For example, if a foreign performer is an educational institution, obligations to that institution should be reported only under foreign performance and not also under universities and colleges.

- **Intramural performers:** This category includes obligations for RDT&E performed by federal employees either in your federal department or agency or elsewhere. This category also includes costs associated with your department’s or agency’s planning and administration of RDT&E for your intramural programs and extramural contract programs (i.e., programs conducted by nonfederal RDT&E performers).

The management and distribution of funds for R&D grants should not be considered in the cost of intramural R&D.

For the RDT&E funds transferred to another federal agency, try to report the funds where they will ultimately be performed—inside or outside the federal government. Use this category if the other federal agency’s employees are expected to perform the RDT&E. If the RDT&E will eventually be conducted at universities and colleges, nonprofit institutions, or businesses, use the appropriate category for these extramural RDT&E performers. This category also includes the costs of supplies and equipment for the intramural RDT&E.

- **Nonprofit institution performers:** This category of performer includes private organizations, other than educational institutions, whose net earnings do not benefit either private stockholders or individuals and other private organizations organized for the exclusive purpose of turning over their entire net earnings to such nonprofit organizations. Examples of nonprofit institutions include foundations, trade associations, charities, and research organizations.
- **Performer:** An intramural group or organization carrying out an operational function or an extramural organization or a person receiving RDT&E support or providing RDT&E services under a contract or grant.
- **Personnel costs:** The survey items on performers ask you to break out the portion of federal intramural obligations for personnel costs. Personnel costs include salaries of both federal employees who perform RDT&E as well as federal employees who monitor or oversee RDT&E projects, both intramural and extramural R&D contracts.

If your budget does not include personnel costs as a line item, please estimate these RDT&E personnel costs and include them in your federal intramural RDT&E obligations.

Examples of RDT&E personnel include the following: scientists, engineers, lab technicians, computer programmers, and dedicated planning and administrative personnel.



- **State and local government:** This category of performer includes RDT&E obligations to state and local government agencies regardless of who actually performs the RDT&E. That is, use this category to report both RDT&E performed by state and local agencies and RDT&E subcontracted by a state or local agency to another organization. Exceptions:
  - Report state and local universities and colleges under Universities and colleges.
  - Report agricultural experiment stations under Universities and colleges.
- **Universities and colleges:** This category of performer includes institutions that engage primarily in providing resident and/or accredited instruction for a not less than a 2-year program above the secondary school level that is acceptable for full credit toward a bachelor’s degree or that provide not less than a 1-year program of training above the secondary school level that prepares students for gainful employment in a recognized occupation. Included are colleges of liberal arts; schools of arts and sciences; professional schools, as in engineering and medicine, including affiliated hospitals and associated research institutes; and agricultural experiment stations. Other examples of universities and colleges include community colleges, four-year colleges, universities, and freestanding professional schools (medical schools, law schools, etc.).

**Table 6A** provides for reporting additional information on the obligations to federal intramural performers for RDT&E during FY 2019. This table is not required for volume 69; do not report.

**Table 9** provides for reporting additional information on FY 2019 RDT&E and R&D plant obligations to FFRDCs. This table requires the breakdown of obligations for RDT&E (Table 6) and R&D Plant (Table 11) reported to individual FFRDCs administered by industrial firms or businesses, universities and colleges, or nonprofit institutions, by each FFRDC listed. Each agency should report obligations to each FFRDC it supports, even if the FFRDC is sponsored by another agency. Agencies may not unilaterally delete organizations classified as FFRDCs from the list or add organizations to it.

**Table 10** provides for reporting obligations for basic research, operational systems development, and total RDT&E to foreign performers by geographic area and country.

**Table 11** provides for reporting obligations for R&D plant by the performer of RDT&E that the R&D plant supports, regardless of the plant’s ownership or location. Definitions that were provided earlier in these instructions for R&D plant and performers apply to these tables.

The performer of RDT&E determines the classification of R&D plant obligations. Report obligations to business or industrial firms, universities and colleges, and nonprofit institutions separately from the obligations to FFRDCs administered by those performers.

**Tables 12A, 12B, 12C, 12, and 13:** Definitions that were provided earlier in these instructions for R&D, RDT&E, R&D plant, and performers apply to these tables.

General instructions include:



- State locations are requested only for the 11 largest R&D departments or agencies: the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Homeland Security, the Interior, and Transportation; the Environmental Protection Agency; the National Aeronautics and Space Administration; and the National Science Foundation.
- Report the principal location where the work is performed by the primary contractor, grantee, or intramural organization. If location information is not available, assign the obligations to the state, District of Columbia, Puerto Rico, other area, or office abroad where the headquarters of the U.S. primary contractor, grantee, or intramural organization is located. If location information cannot be reported, assign the R&D obligations to undistributed.
- Both intramural and extramural obligations are required. The extramural obligations are to be reported in terms of prime contracts or grants.
- The amounts reported in these tables for each performer should add to the totals reported for Tables 6 and 11.
- RDT&E obligations to foreign performers or R&D plant obligations in support of foreign performers should not be reported here. See Table 10.

Specific instructions include:

- **Tables 12A, 12B, and 12C:** Definitions for research, development, performers, basic research, applied research, total research, universities and colleges, and fields of science and engineering that were provided earlier in these instructions apply to these tables also.
  - Table 12A is to be used to report the geographic distribution of FY 2019 obligations for basic and applied research by state and performer. The performer categories are provided in the table.
  - Table 12B is to be used to report the geographic distribution of FY 2019 obligations for advanced technology development and major systems development by state and performer. The performer categories are provided in the table.
  - Table 12C is to be used to report the geographic distribution of FY 2019 obligations for operational systems development by state and performer. The performer categories are provided in the table.
- **Table 12** presents the combined obligations for RDT&E that are reported in Tables 12A, 12B, and 12C. The online Table 12 is read-only.
- **Table 13** is to be used to report the geographic distribution of FY 2019 obligations for R&D plant by state or other area and performer.



**Tables 14, 15, and 16:** Definitions for basic research, applied research, total research, universities and colleges, and fields of science and engineering that were provided for Tables 3, 4, and 5 in these instructions apply to these tables also. Please do not complete Table 16 for volume 69.

- Obligations for basic, applied, and total research performed at universities and colleges (excluding FFRDCs) by field of science and engineering are requested only for seven departments or agencies: the Departments of Agriculture, Defense, Energy, Health and Human Services, and Homeland Security; the National Aeronautics and Space Administration; and the National Science Foundation.
- The total obligations reported in Tables 14 and 15 must equal obligations for basic research, applied research, and the combined obligations for basic and applied research reported for universities and colleges, excluding FFRDCs, of Tables 6 and 7.

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### To Get Help

Contact us by e-mail at [NSFFedFunds@smdi.com](mailto:NSFFedFunds@smdi.com) or at 703-312-5379 for additional help.



**Contact Information**

NOTE: If you enter alternate point of contact information, first name, last name, telephone, and e-mail are required.

\* Required

Primary Point of Contact		
First name:*		Middle initial:
Last name:*		
Title:		
Telephone:*		Ext.:
Fax:		
E-mail address:*		
Street address 1:		
Street address 2:		
City:		State:
Zip:		
Alternate Point of Contact (Optional)		
First name:		Middle initial:
Last name:		
Title:		
Telephone:		Ext.:
Fax:		
E-mail address:		
Supervisor Information		
First name:*		Middle initial:
Last name:*		
Title:		
Telephone:*		Ext.:
E-mail address*		



**Table 1 - Outlays for R&D, RDT&E, and R&D Plant: FYs 2019 and 2020**

**Agency Code:**

**Agency Name:**

Please DO NOT report for FY 2021.

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

R&D, RDT&E, and R&D Plant	FY 2019	FY 2020	FY 2021
R&D (BA 1–6)			
Operational Systems Development (BA 7)			
R&D Plant			
TOTAL RDT&E and R&D Plant (Read Only)			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; RDT&E = Research, Development, Test, and Evaluation.



**Table 1A - Comparison with OMB MAX Schedule C for Federal R&D Programs: FYs 2019 and 2020**

**Agency Code:**

**Agency Name:**

This is the 1<sup>st</sup> of 2 narratives for Table 1.

Please DO NOT report for FY 2021.

If your agency’s report to OMB is not available to you,  
please note why in the comment section below.

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

Total R&D Outlays	FY 2019	FY 2020	FY 2021
Outlays for Total RDT&E Reported in Table 1 (Read Only)			
Outlays for Total R&D (BA 1-6) Reported in Table 1 (Read Only)			
Outlays for Total R&D Reported to OMB in Response to Circular A-11 (Max Schedule C)			
Difference in R&D Outlays Reported in Table 1 and R&D Outlays Reported to OMB (Read Only)			

Please explain any differences in Outlays between the two reports.

Key: BA = Budget Activity; RDT&E = Research, Development, Test, and Evaluation.



**Table 1B - Comparison with OMB MAX Schedule C for R&D Facilities plus Major Moveable R&D Equipment (R&D Plant): FYs 2019 and 2020**

**Agency Code:**

**Agency Name:**

This is the 2<sup>nd</sup> of 2 narratives for Table 1.

Please DO NOT report for FY 2021.

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

Total R&D Plant Outlays	FY 2019	FY 2020	FY 2021
Outlays for Total R&D Plant Reported in Table 1 (Read Only)			
Outlays for Total R&D Facilities plus Major Moveable R&D Equipment Reported to OMB in Response to Circular A-11 (Max Schedule C)			
Difference in Outlays Reported in Table 1 and Outlays Reported to OMB (Read Only)			

Please explain any differences in Outlays between the two reports.



**Table 2 - Summary of Obligations for RDT&E and R&D Plant: FYs 2019 and 2020**

**Agency Code:**

**Agency Name:**

Please DO NOT report for FY 2021.

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

RDT&E	FY 2019	FY 2020	FY 2021
Research			
Basic Research (BA 1)			
Applied Research (BA 2)			
Total Research <sup>1</sup> (Read Only)			
Development			
Advanced Technology Development (BA 3)			
Major Systems Development (BA 4–6)			
Operational Systems Development (BA 7)			
Total DT&E <sup>2</sup> (BA 3–7) (Read Only)			
Total RDT&E (Read Only)			
<b>R&amp;D Plant</b>			
R&D Plant			
TOTAL RDT&E and R&D Plant (Read Only)			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; RDT&E = Research, Development, Test, and Evaluation.

Footnotes:	
1	Basic Research + Applied Research = Total Research.
2	Advanced Technology Development + Major Systems Development + Operational Systems Development = Total Development, Testing, and Evaluation (DT&E).



**Table 3 - Obligations for Basic, Applied, and Total Research by Detailed Field of Science and Engineering: FY 2019**

**Agency Code:**

**Agency Name:**

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

<b>Field of Science and Engineering</b>	<b>Basic Research (BA 1)</b>	<b>Applied Research (BA 2)</b>	<b>Total Research<sup>1</sup> (Read Only)</b>
	FY 2019	FY 2019	FY 2019
<b>Computer Sciences and Mathematics</b>			
Computer Sciences			
Mathematics			
Other Computer Sciences and Mathematics			
Total Computer Sciences and Mathematics (Read Only)			
<b>Engineering</b>			
Aeronautical Engineering			
Astronautical Engineering			
Chemical Engineering			
Civil Engineering			
Electrical Engineering			
Mechanical Engineering			
Metallurgy and Materials Engineering			
Other Engineering			
Total Engineering (Read Only)			
<b>Environmental Sciences</b>			
Atmospheric Sciences			
Geological Sciences			
Oceanography			
Other Environmental Sciences			
Total Environmental Sciences (Read Only)			
<b>Life Sciences</b>			
Agricultural Sciences			
Biological Sciences (excluding Environmental Biology)			
Environmental Biology			
Medical Sciences			
Other Life Sciences			



**Table 3 - Obligations for Basic, Applied, and Total Research by Detailed Field of Science and Engineering: FY 2019**

Field of Science and Engineering	Basic Research (BA 1)	Applied Research (BA 2)	Total Research <sup>1</sup> (Read Only)
	FY 2019	FY 2019	FY 2019
Total Life Sciences (Read Only)			
<b>Physical Sciences</b>			
Astronomy			
Chemistry			
Physics			
Other Physical Sciences			
Total Physical Sciences (Read Only)			
<b>Psychology</b>			
Biological Aspects			
Social Aspects			
Other Psychological Sciences			
Total Psychology (Read Only)			
<b>Social Sciences</b>			
Anthropology			
Economics			
Political Science			
Sociology			
Other Social Sciences			
Total Social Sciences (Read Only)			
<b>Other Sciences not elsewhere classified</b>			
TOTAL All Fields <sup>2</sup> (Read Only)			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity.

Footnotes:

- 1 Basic Research + Applied Research = Total Research.
- 2 The TOTAL All Fields amount for Basic Research FY 2019 (column 1) should equal the amount reported for FY 2019 Basic Research in Table 2. The TOTAL All Fields amount for Applied Research FY 2019 (column 2) should equal the amount reported for FY 2019 Applied Research in Table 2.



**Table 4 - Obligations for Basic, Applied, and Total Research by Broad Field of Science and Engineering: FY 2020**

**Agency Code:**

**Agency Name:**

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

	<b>Basic Research (BA 1)</b>	<b>Applied Research (BA 2)</b>	<b>Total Research<sup>1</sup> (Read Only)</b>
<b>Field of Science and Engineering</b>	FY 2020	FY 2020	FY 2020
Computer Sciences and Mathematics			
Engineering			
Environmental Sciences			
Life Sciences			
Physical Sciences			
Psychology			
Social Sciences			
Other Sciences not elsewhere classified			
<b>TOTAL All Fields<sup>2</sup> (Read Only)</b>			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity.

Footnotes:

- 1 Basic Research + Applied Research = Total Research.
- 2 The TOTAL All Fields amount for Basic Research FY 2020 (column 1) should equal the amount reported for FY 2020 Basic Research in Table 2. The TOTAL All Fields amount for Applied Research FY 2020 (column 2) should equal the amount reported for FY 2020 Applied Research in Table 2.



**Table 5 - Obligations for Basic, Applied, and Total Research by Broad Field of Science and Engineering: FY 2021**

**Agency Code:**

**Agency Name:**

Please DO NOT report for FY 2021.

Field of Science and Engineering	Basic Research (BA 1)	Applied Research (BA 2)	Total Research <sup>1</sup> (Read Only)
	FY 2021	FY 2021	FY 2021
Computer Sciences and Mathematics			
Engineering			
Environmental Sciences			
Life Sciences			
Physical Sciences			
Psychology			
Social Sciences			
Other Sciences not elsewhere classified			
TOTAL All Fields <sup>2</sup> (Read Only)			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity.

Footnotes:

- 1 Basic Research + Applied Research = Total Research.
- 2 The TOTAL All Fields amount for Basic Research FY 2021 (column 1) should equal the amount reported for FY 2021 Basic Research in Table 2. The TOTAL All Fields amount for Applied Research FY 2021 (column 2) should equal the amount reported for FY 2021 Applied Research in Table 2.



**Table 6 - RDT&E Obligations by Performer and Type of RDT&E: FY 2019**

**Agency Code:**

**Agency Name:**

If you report any extramural funds, then you may also have some federal intramural funds to report if your agency spends funds, at least for staff time, to administer the extramural RDT&E contract programs.

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

Performer	Basic Research (BA 1)	Applied Research (BA 2)	Advanced Technology Development (BA 3)	Major Systems Development (BA 4–6)	Operational Systems Development (BA 7)	Total RDT&E (Read Only)
	FY 2019	FY 2019	FY 2019	FY 2019	FY 2019	FY 2019
Federal Intramural <sup>1</sup>						
Portion of Federal Intramural for Personnel Costs <sup>2</sup>	( )	( )	( )	( )	( )	( )
Businesses Excluding FFRDCs						
FFRDCs Administered by Industrial Firms						
Universities and Colleges Excluding FFRDCs						
FFRDCs Administered by Universities and Colleges						
Nonprofit Institutions Excluding FFRDCs						
FFRDCs Administered by Nonprofit Institutions						
State and Local Governments						
Total All Domestic Performers (Read Only)						
Foreign						
TOTAL All Performers <sup>3</sup> (Read Only)						

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity. FFRDCs = Federally funded research and development centers; RDT&E = Research, Development, Test, and Evaluation.



Footnotes:

- 1 Include (1) RDT&E conducted by federal agencies and (2) your agency's costs for monitoring RDT&E contracts, grants, and cooperative agreements.
- 2 Include the portion of federal intramural costs (reported above) associated with (1) personnel costs for performing federal intramural research projects and (2) costs of dedicated personnel for the planning and administration of extramural RDT&E contracts.
- 3 The TOTAL All Performers amounts for Basic Research, Applied Research, Advanced Technology Development, Major Systems Development, and Operational Systems Development should equal the amounts reported for Basic Research, Applied Research, Advanced Technology Development, Major Systems Development, and Operational Systems Development in Table 2 for FY 2019.



**Table 6A - Federal Intramural RDT&E Obligations: FY 2019**

**Agency Code:**

**Agency Name:**

Please DO NOT report for FY 2019.

Type of Obligation	Federal Intramural RDT&E Obligations <sup>1</sup> FY 2019
Planning and administration of intramural and extramural RDT&E programs	
Interagency transfers	
Total Federal laboratories <sup>2</sup>	
<b>TOTAL Federal Intramural RDT&amp;E<sup>3</sup></b>	

Please use the space below to explain any difficulty you experienced categorizing any of the obligations in Table 6A, or if you would like to provide additional information about your responses:

Key: RDT&E = Research, Development, Test, and Evaluation.

Footnotes:

- 1 Include (1) RDT&E conducted by federal agencies and (2) your agency’s costs for monitoring RDT&E contracts, grants, and cooperative agreements.
- 2 Include all of your agency’s federal laboratories to which your agency obligated RDT&E funds in FY 2019.
- 3 The TOTAL Federal Intramural RDT&E amount should equal the amount reported for Federal Intramural TOTAL RDT&E in Table 6.



**Table 7 - RDT&E Obligations by Performer and Type of RDT&E: FY 2020**

**Agency Code:**

**Agency Name:**

NOTE: If you report any extramural funds, then you may also have some federal intramural funds to report if your agency spends funds, at least for staff time, to administer the extramural RDT&E contract programs.

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

Performer	Basic Research (BA 1)	Applied Research (BA 2)	Advanced Technology Development (BA 3)	Major Systems Development (BA 4–6)	Operational Systems Development (BA 7)	Total RDT&E (Read Only)
	FY 2020	FY 2020	FY 2020	FY 2020	FY 2020	FY 2020
Federal Intramural <sup>1</sup>						
Portion of Federal Intramural for Personnel Costs <sup>2</sup>	( )	( )	( )	( )	( )	( )
Businesses Excluding FFRDCs						
FFRDCs Administered by Industrial Firms						
Universities and Colleges Excluding FFRDCs						
FFRDCs Administered by Universities and Colleges						
Nonprofit Institutions Excluding FFRDCs						
FFRDCs Administered by Nonprofit Institutions						
State and Local Governments						
Total All Domestic Performers (Read Only)						
Foreign						
TOTAL All Performers <sup>3</sup> (Read Only)						

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; FFRDCs = Federally funded research and development centers; RDT&E = Research, Development, Test, and Evaluation.



Footnotes:

- 1 Include (1) RDT&E conducted by federal agencies and (2) your agency's costs for monitoring RDT&E contracts, grants, and cooperative agreements.
- 2 Include the portion of federal intramural costs (reported above) associated with (1) personnel costs for performing federal intramural research projects and (2) costs of dedicated personnel for the planning and administration of extramural RDT&E contracts.
- 3 The TOTAL All Performers amounts for Basic Research, Applied Research, Advanced Technology Development, Major Systems Development, and Operational Systems Development should equal the amounts reported for Basic Research, Applied Research, Advanced Technology Development, Major Systems Development, and Operational Systems Development in Table 2 for FY 2020.



**Table 8 - RDT&E Obligations by Performer and Type of RDT&E: FY 2021**

**Agency Code:**

**Agency Name:**

Please DO NOT report for FY 2021.

Performer	Basic Research (BA 1)	Applied Research (BA 2)	Advanced Technology Development (BA 3)	Major Systems Development (BA 4–6)	Operational Systems Development (BA 7)	Total RDT&E (Read Only)
	FY 2021	FY 2021	FY 2021	FY 2021	FY 2021	FY 2021
Federal Intramural <sup>1</sup>						
Portion of Federal Intramural for Personnel Costs <sup>2</sup>	( )	( )	( )	( )	( )	( )
Businesses Excluding FFRDCs						
FFRDCs Administered by Industrial Firms						
Universities and Colleges Excluding FFRDCs						
FFRDCs Administered by Universities and Colleges						
Nonprofit Institutions Excluding FFRDCs						
FFRDCs Administered by Nonprofit Institutions						
State and Local Governments						
Total All Domestic Performers (Read Only)						
Foreign						
TOTAL All Performers <sup>3</sup> (Read Only)						

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; FFRDCs = Federally funded research and development centers; RDT&E = Research, Development, Test, and Evaluation.

- Footnotes:
- 1 Include (1) RDT&E conducted by federal agencies and (2) your agency’s costs for monitoring RDT&E contracts, grants, and cooperative agreements.
  - 2 Include the portion of federal intramural costs (reported above) associated with (1) personnel costs for performing federal intramural research projects and (2) costs of dedicated personnel for the planning and administration of extramural RDT&E contracts.



- 3 The TOTAL All Performers amounts for Basic Research, Applied Research, Advanced Technology Development, Major Systems Development, and Operational Systems Development should equal the amounts reported for Basic Research, Applied Research, Advanced Technology Development, Major Systems Development, and Operational Systems Development in Table 2 for FY 2021.



**Table 9 - Obligations for RDT&E and R&D Plant at Individual Federally Funded Research and Development Centers (FFRDCs): FY 2019**

**Agency Code:**

**Agency Name:**

NOTE: If your agency sponsors an FFRDC and no RDT&E funds were obligated for it for your FFRDC for FY 2019, please explain why not in the comment box.

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

Administered by Industrial Firms	R&D Obligations (BA 1–6)	Operational Systems Development (BA 7)	R&D Plant Obligations
Frederick National Laboratory for Cancer Research (Leidos Biomedical Research, Inc.) Frederick, MD			
Idaho National Laboratory (Battelle Energy Alliance, LLC) Idaho Falls, ID			
Lawrence Livermore National Laboratory (Lawrence Livermore National Security, LLC) Livermore, CA			
Los Alamos National Laboratory (Triad National Security, LLC) Los Alamos, NM			
Sandia National Laboratories (National Technology and Engineering Solutions of Sandia, LLC) Albuquerque, NM			
Savannah River National Laboratory (Savannah River Nuclear Solutions, LLC) Aiken, SC			
TOTAL Industrial-Administered FFRDCs <sup>1, 2</sup> (Read Only)			
Administered by Universities and Colleges <sup>3</sup>	R&D Obligations (BA 1–6)	Operational Systems Development (BA 7)	R&D Plant Obligations
Ames Laboratory (Iowa State University) Ames, IA			
Argonne National Laboratory (UChicago Argonne, LLC) Argonne, IL			
Fermi National Accelerator Laboratory (Fermi Research Alliance, LLC) Batavia, IL			
Jet Propulsion Laboratory (California Institute of Technology) Pasadena, CA			
Lawrence Berkeley National Laboratory (University of California) Berkeley, CA			



**Table 9 - Obligations for RDT&E and R&D Plant at Individual Federally Funded Research and Development Centers (FFRDCs): FY 2019**

Administered by Universities and Colleges <sup>3</sup>	R&D Obligations (BA 1–6)	Operational Systems Development (BA 7)	R&D Plant Obligations
Lincoln Laboratory (Massachusetts Institute of Technology) Lexington, MA			
National Center for Atmospheric Research (University Corp. for Atmospheric Research) Boulder, CO			
National Optical Astronomy Observatory (Association of Universities for Research in Astronomy, Inc.) Tucson, AZ			
National Radio Astronomy Observatory (Associated Universities, Inc.) Charlottesville, VA			
National Solar Observatory (Association of Universities for Research in Astronomy, Inc.) Sunspot, NM			
Princeton Plasma Physics Laboratory (Princeton University) Princeton, NJ			
SLAC National Accelerator Laboratory (Stanford University) Menlo Park, CA			
Software Engineering Institute (Carnegie Mellon University) Pittsburgh, PA			
Thomas Jefferson National Accelerator Facility (Jefferson Science Associates, LLC) Newport News, VA			
TOTAL University and College-Administered FFRDCs <sup>4, 5</sup> (Read Only)			
Administered by Nonprofit Institutions <sup>6</sup>	R&D Obligations (BA 1–6)	Operational Systems Development (BA 7)	R&D Plant Obligations
Aerospace Federally Funded Research and Development Center (The Aerospace Corp.) El Segundo, CA			
Arroyo Center (RAND Corp.) Santa Monica, CA			
Brookhaven National Laboratory (Brookhaven Science Associates, LLC) Upton, NY			
Center for Advanced Aviation System Development (MITRE Corp.) McLean, VA			
Center for Communications and Computing (Institute for Defense Analyses) Alexandria, VA			



**Table 9 - Obligations for RDT&E and R&D Plant at Individual Federally Funded Research and Development Centers (FFRDCs): FY 2019**

Administered by Nonprofit Institutions <sup>6</sup>	R&D Obligations (BA 1–6)	Operational Systems Development (BA 7)	R&D Plant Obligations
Center for Enterprise Modernization (MITRE Corp.) McLean, VA			
Center for Naval Analyses (The CNA Corp.) Alexandria, VA			
Center for Nuclear Waste Regulatory Analyses (Southwest Research Institute) San Antonio, TX			
CMS Alliance to Modernize Healthcare (MITRE Corp.) Baltimore, MD			
Homeland Security Operational Analysis Center (RAND Corp.) Arlington, VA			
Homeland Security Systems Engineering and Development Institute (MITRE Corp.) McLean, VA			
Judiciary Engineering and Modernization Center (MITRE Corp.) McLean, VA			
National Biodefense Analysis and Countermeasures Center (Battelle National Biodefense Institute) Frederick, MD			
National Cybersecurity Center of Excellence (MITRE Corp.) Rockville, MD			
National Defense Research Institute (RAND Corp.) Santa Monica, CA			
National Renewable Energy Laboratory (Alliance for Sustainable Energy, LLC) Golden, CO			
National Security Engineering Center (MITRE Corp.) Bedford, MA, and McLean, VA (Read Only)			
NSEC -- Bedford, MA Laboratory Bedford, MA			
NSEC -- McLean, VA Laboratory McLean, VA			
Oak Ridge National Laboratory (UT-Battelle, LLC) Oak Ridge, TN			
Pacific Northwest National Laboratory (Battelle Memorial Institute) Richland, WA			
Project Air Force (RAND Corp.) Santa Monica, CA			
Science and Technology Policy Institute (Institute for Defense Analyses) Washington, DC			
Systems and Analyses Center (Institute for Defense Analyses) Alexandria, VA			



**Table 9 - Obligations for RDT&E and R&D Plant at Individual Federally Funded Research and Development Centers (FFRDCs): FY 2019**

Administered by Nonprofit Institutions <sup>6</sup>	R&D Obligations (BA 1–6)	Operational Systems Development (BA 7)	R&D Plant Obligations
TOTAL Nonprofit-Administered FFRDCs <sup>7, 8</sup> (Read Only)			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; FFRDCs = Federally funded research and development centers; RDT&E = Research, Development, Test, and Evaluation.

Notes: Each supporting agency should report obligations to each FFRDC it uses even though the FFRDC may be under the sponsorship of another agency. See NSF's website for a list of FFRDCs shown by sponsoring agency and administering organization.

Footnotes:	
1	The TOTAL Industry-Administered FFRDCs amount for R&D Obligations (column 1) and Operational Systems Development (column 2) should equal the Total RDT&E amount for FFRDCs Administered by Industrial Firms in Table 6.
2	The TOTAL Industry-Administered FFRDCs amount for R&D Plant Obligations (column 3) should equal the amount reported for FFRDCs Administered by Industrial Firms in Table 11 for FY 2019.
3	Includes university consortia.
4	The TOTAL University and College-Administered FFRDCs amount for R&D Obligations (column 1) and Operational Systems Development (column 2) should equal the Total RDT&E amount for FFRDCs Administered by Universities and Colleges in Table 6.
5	The TOTAL University and College-Administered FFRDCs amount for R&D Plant Obligations (column 3) should equal the amount reported for FFRDCs Administered by Universities and Colleges in Table 11 for FY 2019.
6	Other than universities and colleges.
7	The TOTAL Nonprofit-Administered FFRDCs amount for R&D Obligations (column 1) and Operational Systems Development (column 2) should equal the Total RDT&E amount for FFRDCs Administered by Nonprofit Institutions in Table 6.
8	The TOTAL Nonprofit-Administered FFRDCs amount for R&D Plant Obligations (column 3) should equal the amount reported for FFRDCs Administered by Nonprofit Institutions in Table 11 for FY 2019.



**Table 10 - Obligations to Foreign Performers by Country for Basic Research, Operational Systems Development, and RDT&E: FY 2019**

**Agency Code:**

**Agency Name:**

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

Geographic Area and Country	Basic Research Only (BA 1)	Operational Systems Development (BA 7)	RDT&E
<b>Africa</b>			
Algeria			
Angola			
Benin			
Botswana			
Burkina Faso			
Burundi			
Cabo Verde			
Cameroon			
Central African Republic			
Chad			
Comoros			
Congo, Democratic Republic of the			
Congo, Republic of the			
Côte d'Ivoire			
Djibouti			
Egypt			
Equatorial Guinea			
Eritrea			
Eswatini (formerly Swaziland)			
Ethiopia			
Gabon			
Gambia, The			
Ghana			
Guinea			
Guinea-Bissau			
Kenya			
Lesotho			
Liberia			
Libya			
Madagascar			
Mali			



**Table 10 - Obligations to Foreign Performers by Country for Basic Research, Operational Systems Development, and RDT&E: FY 2019**

Geographic Area and Country	Basic Research Only (BA 1)	Operational Systems Development (BA 7)	RDT&E
<b>Africa</b>			
Mauritania			
Mauritius			
Morocco			
Mozambique			
Namibia			
Niger			
Nigeria			
Reunion			
Rwanda			
Saint Helena			
Sao Tome and Principe			
Senegal			
Seychelles			
Sierra Leone			
Somalia			
South Africa			
South Sudan			
Sudan			
Tanzania			
Togo			
Tunisia			
Uganda			
Western Sahara			
Zambia			
Zimbabwe			
African countries, other			
Africa, Total (Read Only)			
<b>Asia</b>			
Afghanistan			
Armenia			
Azerbaijan			
Bahrain			
Bangladesh			
Bhutan			



**Table 10 - Obligations to Foreign Performers by Country for Basic Research, Operational Systems Development, and RDT&E: FY 2019**

Geographic Area and Country	Basic Research Only (BA 1)	Operational Systems Development (BA 7)	RDT&E
<b>Asia</b>			
Brunei			
Cambodia			
China			
Cyprus			
Gaza Strip			
Georgia			
Hong Kong			
India			
Indonesia			
Iran			
Iraq			
Israel			
Japan			
Jordan			
Kazakhstan			
Korea, North			
Korea, South			
Kuwait			
Kyrgyzstan			
Laos			
Lebanon			
Macau			
Malaysia			
Maldives			
Mongolia			
Myanmar/Burma			
Nepal			
Oman			
Pakistan			
Palestine			
Philippines			
Qatar			
Saudi Arabia			
Singapore			
Sri Lanka			



**Table 10 - Obligations to Foreign Performers by Country for Basic Research, Operational Systems Development, and RDT&E: FY 2019**

Geographic Area and Country	Basic Research Only (BA 1)	Operational Systems Development (BA 7)	RDT&E
<b>Asia</b>			
Syria			
Taiwan			
Tajikistan			
Thailand			
Timor-Leste			
Turkey			
Turkmenistan			
United Arab Emirates			
Uzbekistan			
Vietnam			
West Bank			
Yemen			
Asian countries, other			
Asia, Total (Read Only)			
<b>Europe</b>			
Albania			
Andorra			
Austria			
Belarus			
Belgium			
Bosnia and Herzegovina			
Bulgaria			
Croatia			
Czechia			
Denmark			
Estonia			
Faroe Islands			
Finland			
France			
Germany			
Gibraltar			
Greece			
Holy See			
Hungary			



**Table 10 - Obligations to Foreign Performers by Country for Basic Research, Operational Systems Development, and RDT&E: FY 2019**

Geographic Area and Country	Basic Research Only (BA 1)	Operational Systems Development (BA 7)	RDT&E
<b>Europe</b>			
Iceland			
Ireland			
Italy			
Kosovo			
Latvia			
Liechtenstein			
Lithuania			
Luxembourg			
Malta			
Moldova			
Monaco			
Montenegro			
Netherlands			
North Macedonia			
Norway			
Poland			
Portugal			
Romania			
Russia			
San Marino			
Serbia			
Slovakia			
Slovenia			
Spain			
Sweden			
Switzerland			
Ukraine			
United Kingdom			
European countries, other			
Europe, Total (Read Only)			



**Table 10 - Obligations to Foreign Performers by Country for Basic Research, Operational Systems Development, and RDT&E: FY 2019**

Geographic Area and Country	Basic Research Only (BA 1)	Operational Systems Development (BA 7)	RDT&E
<b>North America</b>			
Anguilla			
Antigua and Barbuda			
Aruba			
Bahamas, The			
Barbados			
Belize			
Bermuda			
Canada			
Cayman Islands			
Costa Rica			
Cuba			
Curaçao			
Dominica			
Dominican Republic			
El Salvador			
Greenland			
Grenada			
Guadeloupe			
Guatemala			
Haiti			
Honduras			
Jamaica			
Martinique			
Mexico			
Montserrat			
Nicaragua			
Panama			
Saint Kitts and Nevis			
Saint Lucia			
Saint Pierre and Miquelon			
Saint Vincent and the Grenadines			
Sint Maarten			
Trinidad and Tobago			
Turks and Caicos Islands			
Virgin Islands, British			



**Table 10 - Obligations to Foreign Performers by Country for Basic Research, Operational Systems Development, and RDT&E: FY 2019**

<b>Geographic Area and Country</b>	<b>Basic Research Only (BA 1)</b>	<b>Operational Systems Development (BA 7)</b>	<b>RDT&amp;E</b>
<b>North America</b>			
North American countries, other			
North America, Total (Read Only)			
<b>Oceania</b>			
Australia			
Cook Islands			
Fiji			
French Polynesia			
Kiribati			
Marshall Islands			
Micronesia, Federated States of			
Nauru			
New Caledonia			
New Zealand			
Niue			
Palau			
Papua New Guinea			
Samoa			
Solomon Islands			
Tokelau			
Tonga			
Tuvalu			
Vanuatu			
Oceanic countries, other			
Oceania, Total (Read Only)			
<b>South America</b>			
Argentina			
Bolivia			
Brazil			
Chile			
Colombia			
Ecuador			
Falkland Islands (Islas Malvinas)			
French Guiana			



**Table 10 - Obligations to Foreign Performers by Country for Basic Research, Operational Systems Development, and RDT&E: FY 2019**

Geographic Area and Country	Basic Research Only (BA 1)	Operational Systems Development (BA 7)	RDT&E
<b>South America</b>			
Guyana			
Paraguay			
Peru			
Suriname			
Uruguay			
Venezuela			
South American countries, other			
South America, Total (Read Only)			
<b>Other</b>			
International Organizations			
<b>Total</b>			
TOTAL, all foreign performers <sup>1, 2, 3</sup> (Read Only)			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; RDT&E = Research, Development, Test, and Evaluation.

Footnotes:	
1	The TOTAL, all foreign performers amount for Basic Research Only (column 1) should equal the amount reported for Basic Research in the "Foreign" category of Table 6.
2	The TOTAL, all foreign performers amount for Operational Systems Development (column 2) should equal the amount reported for Operational Systems Development in the "Foreign" category of Table 6.
3	The TOTAL, all foreign performers amount for RDT&E (column 3) should equal the Total RDT&E amount in the "Foreign" category of Table 6.



**Table 11 - Obligations for R&D Plant by Performer of R&D: FYs 2019 and 2020**

**Agency Code:**

**Agency Name:**

Please DO NOT report for FY 2021.

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

Performer	FY 2019	FY 2020	FY 2021
Federal Intramural			
Businesses Excluding FFRDCs			
FFRDCs Administered by Industrial Firms			
Universities and Colleges Excluding FFRDCs			
FFRDCs Administered by Universities and Colleges			
Nonprofit Institutions Excluding FFRDCs			
FFRDCs Administered by Nonprofit Institutions			
State and Local Governments			
Total All Domestic Performers (Read Only)			
Foreign			
TOTAL All Performers <sup>1</sup> (Read Only)			

Please use the space below to add explanations for data reported in this table.

Key: FFRDCs = Federally funded research and development centers; RDT&E = Research, Development, Test, and Evaluation.

<p>Footnotes:</p> <p>1 The TOTAL All Performers amounts should equal the Total R&amp;D Plant amounts in Table 2 for the corresponding years.</p>
--



**Table 12A - Obligations for Basic Research (BA 1) plus Applied Research (BA 2) by State and Performer: FY 2019**

**Agency Code:**

**Agency Name:**

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

State	Federal Intra-mural <sup>1</sup>	Businesses Excluding FFRDCs <sup>2</sup>	FFRDCs Administered by Industrial Firms <sup>3</sup>	Universities and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Administered by Universities and Colleges <sup>5</sup>	Nonprofit Institutions Excluding FFRDCs <sup>6</sup>	FFRDCs Administered by Nonprofit Institutions <sup>7</sup>	State and Local Governments <sup>8</sup>
Alabama								
Alaska								
Arizona								
Arkansas								
California								
Colorado								
Connecticut								
Delaware								
District of Columbia								
Florida								
Georgia								
Hawaii								
Idaho								
Illinois								
Indiana								
Iowa								
Kansas								
Kentucky								
Louisiana								
Maine								
Maryland								
Massachusetts								
Michigan								
Minnesota								
Mississippi								
Missouri								
Montana								
Nebraska								



**Table 12A - Obligations for Basic Research (BA 1) plus Applied Research (BA 2) by State and Performer: FY 2019**

State	Federal Intra-mural <sup>1</sup>	Busi-nesses Excluding FFRDCs <sup>2</sup>	FFRDCs Admin-istered by Industrial Firms <sup>3</sup>	Univer-sities and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Admin-istered by Univer-sities and Colleges <sup>5</sup>	Nonprofit Institu-tions Excluding FFRDCs <sup>6</sup>	FFRDCs Admin-istered by Nonprofit Institu-tions <sup>7</sup>	State and Local Govern-ments <sup>8</sup>
Nevada								
New Hampshire								
New Jersey								
New Mexico								
New York								
North Carolina								
North Dakota								
Ohio								
Oklahoma								
Oregon								
Pennsylvania								
Rhode Island								
South Carolina								
South Dakota								
Tennessee								
Texas								
Utah								
Vermont								
Virginia								
Washington								
West Virginia								
Wisconsin								
Wyoming								
Offices abroad								
Puerto Rico								
Other areas								
Undistributed								
<b>TOTAL (Read Only)</b>								

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; FFRDCs = Federally funded research and development centers.



"Other areas" includes U.S. territories other than Puerto Rico.

"Offices abroad" includes R&D performed or administered in foreign countries by the U.S. government.

"Undistributed" includes Department of Defense obligations for which location of performance cannot be reported.

Footnotes:	
1	The Federal Intramural column total should equal the combined amount reported for Basic Research and Applied Research for Federal Intramural in Table 6.
2	The Businesses Excluding FFRDCs column total should equal the combined amount reported for Basic Research and Applied Research for Businesses Excluding FFRDCs in Table 6.
3	The FFRDCs Administered by Industrial Firms column total should equal the combined amount reported for Basic Research and Applied Research for FFRDCs Administered by Industrial Firms in Table 6.
4	The Universities and Colleges Excluding FFRDCs column total should equal the combined amount reported for Basic Research and Applied Research for Universities and Colleges Excluding FFRDCs in Table 6.
5	The FFRDCs Administered by Universities and Colleges column total should equal the combined amount reported for Basic Research and Applied Research for FFRDCs Administered by Universities and Colleges in Table 6.
6	The Nonprofit Institutions Excluding FFRDCs column total should equal the combined amount reported for Basic Research and Applied Research for Nonprofit Institutions Excluding FFRDCs in Table 6.
7	The FFRDCs Administered by Nonprofit Institutions column total should equal the combined amount reported for Basic Research and Applied Research for FFRDCs Administered by Nonprofit Institutions in Table 6.
8	The State and Local Governments column total should equal the combined amount reported for Basic Research and Applied Research for State and Local Governments in Table 6.



**Table 12B - Obligations for Advanced Technology Development (BA 3) plus Major Systems Development (BA 4–6) by State and Performer: FY 2019**

**Agency Code:**

**Agency Name:**

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

State	Federal Intra-mural <sup>1</sup>	Businesses Excluding FFRDCs <sup>2</sup>	FFRDCs Admin-istered by Industrial Firms <sup>3</sup>	Univer-sites and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Admin-istered by Univer-sites and Colleges <sup>5</sup>	Nonprofit Institu-tions Excluding FFRDCs <sup>6</sup>	FFRDCs Admin-istered by Nonprofit Institu-tions <sup>7</sup>	State and Local Govern-ments <sup>8</sup>
Alabama								
Alaska								
Arizona								
Arkansas								
California								
Colorado								
Connecticut								
Delaware								
District of Columbia								
Florida								
Georgia								
Hawaii								
Idaho								
Illinois								
Indiana								
Iowa								
Kansas								
Kentucky								
Louisiana								
Maine								
Maryland								
Massachusetts								
Michigan								
Minnesota								
Mississippi								
Missouri								
Montana								
Nebraska								



**Table 12B - Obligations for Advanced Technology Development (BA 3) plus Major Systems Development (BA 4–6) by State and Performer: FY 2019**

State	Federal Intra-mural <sup>1</sup>	Busi-nesses Excluding FFRDCs <sup>2</sup>	FFRDCs Admin-istered by Industrial Firms <sup>3</sup>	Univer-sites and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Admin-istered by Univer-sites and Colleges <sup>5</sup>	Nonprofit Institu-tions Excluding FFRDCs <sup>6</sup>	FFRDCs Admin-istered by Nonprofit Institu-tions <sup>7</sup>	State and Local Govern-ments <sup>8</sup>
Nevada								
New Hampshire								
New Jersey								
New Mexico								
New York								
North Carolina								
North Dakota								
Ohio								
Oklahoma								
Oregon								
Pennsylvania								
Rhode Island								
South Carolina								
South Dakota								
Tennessee								
Texas								
Utah								
Vermont								
Virginia								
Washington								
West Virginia								
Wisconsin								
Wyoming								
Offices abroad								
Puerto Rico								
Other areas								
Undistributed								
<b>TOTAL (Read Only)</b>								

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; FFRDCs = Federally funded research and development centers.



"Other areas" includes U.S. territories other than Puerto Rico.

"Offices abroad" includes R&D performed or administered in foreign countries by the U.S. government.

"Undistributed" includes Department of Defense obligations for which location of performance cannot be reported.

Footnotes:

- 1 The Federal Intramural column total should equal the combined amount reported for Advanced Technology Development and Major Systems Development for Federal Intramural in Table 6.
- 2 The Businesses Excluding FFRDCs column total should equal the combined amount reported for Advanced Technology Development and Major Systems Development for Businesses Excluding FFRDCs in Table 6.
- 3 The FFRDCs Administered by Industrial Firms column total should equal the combined amount reported for Advanced Technology Development and Major Systems Development for FFRDCs Administered by Industrial Firms in Table 6.
- 4 The Universities and Colleges Excluding FFRDCs column total should equal the combined amount reported for Advanced Technology Development and Major Systems Development for Universities and Colleges Excluding FFRDCs in Table 6.
- 5 The FFRDCs Administered by Universities and Colleges column total should equal the combined amount reported for Advanced Technology Development and Major Systems Development for FFRDCs Administered by Universities and Colleges in Table 6.
- 6 The Nonprofit Institutions Excluding FFRDCs column total should equal the combined amount reported for Advanced Technology Development and Major Systems Development for Nonprofit Institutions Excluding FFRDCs in Table 6.
- 7 The FFRDCs Administered by Nonprofit Institutions column total should equal the combined amount reported for Advanced Technology Development and Major Systems Development for FFRDCs Administered by Nonprofit Institutions in Table 6.
- 8 The State and Local Governments column total should equal the combined amount reported for Advanced Technology Development and Major Systems Development for State and Local Governments in Table 6.



**Table 12C - Obligations for Operational Systems Development (BA 7) by State and Performer: FY 2019**

**Agency Code:**

**Agency Name:**

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

State	Federal Intra-mural <sup>1</sup>	Businesses Excluding FFRDCs <sup>2</sup>	FFRDCs Admin-istered by Industrial Firms <sup>3</sup>	Univer-sites and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Admin-istered by Univer-sites and Colleges <sup>5</sup>	Nonprofit Institu-tions Excluding FFRDCs <sup>6</sup>	FFRDCs Admin-istered by Nonprofit Institu-tions <sup>7</sup>	State and Local Govern-ments <sup>8</sup>
Alabama								
Alaska								
Arizona								
Arkansas								
California								
Colorado								
Connecticut								
Delaware								
District of Columbia								
Florida								
Georgia								
Hawaii								
Idaho								
Illinois								
Indiana								
Iowa								
Kansas								
Kentucky								
Louisiana								
Maine								
Maryland								
Massachusetts								
Michigan								
Minnesota								
Mississippi								
Missouri								
Montana								
Nebraska								



**Table 12C - Obligations for Operational Systems Development (BA 7) by State and Performer:  
FY 2019**

State	Federal Intra-mural <sup>1</sup>	Busi-nesses Excluding FFRDCs <sup>2</sup>	FFRDCs Admin-istered by Industrial Firms <sup>3</sup>	Univer-sites and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Admin-istered by Univer-sites and Colleges <sup>5</sup>	Nonprofit Institu-tions Excluding FFRDCs <sup>6</sup>	FFRDCs Admin-istered by Nonprofit Institu-tions <sup>7</sup>	State and Local Govern-ments <sup>8</sup>
Nevada								
New Hampshire								
New Jersey								
New Mexico								
New York								
North Carolina								
North Dakota								
Ohio								
Oklahoma								
Oregon								
Pennsylvania								
Rhode Island								
South Carolina								
South Dakota								
Tennessee								
Texas								
Utah								
Vermont								
Virginia								
Washington								
West Virginia								
Wisconsin								
Wyoming								
Offices abroad								
Puerto Rico								
Other areas								
Undistributed								
<b>TOTAL (Read Only)</b>								

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; FFRDCs = Federally funded research and development centers.



"Other areas" includes U.S. territories other than Puerto Rico.

"Offices abroad" includes R&D performed or administered in foreign countries by the U.S. government.

"Undistributed" includes Department of Defense obligations for which location of performance cannot be reported.

Footnotes:

- 1 The Federal Intramural column total should equal the amount reported for Operational Systems Development for Federal Intramural in Table 6.
- 2 The Businesses Excluding FFRDCs column total should equal the amount reported for Operational Systems Development for Businesses Excluding FFRDCs in Table 6.
- 3 The FFRDCs Administered by Industrial Firms column total should equal the amount reported for Operational Systems Development for FFRDCs Administered by Industrial Firms in Table 6.
- 4 The Universities and Colleges Excluding FFRDCs column total should equal the amount reported for Operational Systems Development for Universities and Colleges Excluding FFRDCs in Table 6.
- 5 The FFRDCs Administered by Universities and Colleges column total should equal the amount reported for Operational Systems Development for FFRDCs Administered by Universities and Colleges in Table 6.
- 6 The Nonprofit Institutions Excluding FFRDCs column total should equal the amount reported for Operational Systems Development for Nonprofit Institutions Excluding FFRDCs in Table 6.
- 7 The FFRDCs Administered by Nonprofit Institutions column total should equal the amount reported for Operational Systems Development for FFRDCs Administered by Nonprofit Institutions in Table 6.
- 8 The State and Local Governments column total should the amount reported for Operational Systems Development for State and Local Governments in Table 6.



**Table 12 - RDT&E Obligations by State and Performer: FY 2019**

**Agency Code:**

**Agency Name:**

The online version is read-only and carries the following notice:

**READ-ONLY VERSION TABLE**  
**The RDT&E obligations data entered in Tables 12A, 12B, and 12C are combined below.**  
**If you have warnings, please enter the explanations on Tables 12A, 12B, and 12C.**

State	Federal Intra-mural <sup>1</sup>	Busi-nesses Excluding FFRDCs <sup>2</sup>	FFRDCs Admin-istered by Industrial Firms <sup>3</sup>	Univer-sities and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Admin-istered by Univer-sities and Colleges <sup>5</sup>	Nonprofit Institu-tions Excluding FFRDCs <sup>6</sup>	FFRDCs Admin-istered by Nonprofit Institu-tions <sup>7</sup>	State and Local Govern-ments <sup>8</sup>
Alabama								
Alaska								
Arizona								
Arkansas								
California								
Colorado								
Connecticut								
Delaware								
District of Columbia								
Florida								
Georgia								
Hawaii								
Idaho								
Illinois								
Indiana								
Iowa								
Kansas								
Kentucky								
Louisiana								
Maine								
Maryland								
Massachusetts								
Michigan								
Minnesota								
Mississippi								
Missouri								



**Table 12 - RDT&E Obligations by State and Performer: FY 2019**

State	Federal Intra-mural <sup>1</sup>	Businesses Excluding FFRDCs <sup>2</sup>	FFRDCs Admin-istered by Industrial Firms <sup>3</sup>	Univer-sities and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Admin-istered by Univer-sities and Colleges <sup>5</sup>	Nonprofit Institu-tions Excluding FFRDCs <sup>6</sup>	FFRDCs Admin-istered by Nonprofit Institu-tions <sup>7</sup>	State and Local Govern-ments <sup>8</sup>
Montana								
Nebraska								
Nevada								
New Hampshire								
New Jersey								
New Mexico								
New York								
North Carolina								
North Dakota								
Ohio								
Oklahoma								
Oregon								
Pennsylvania								
Rhode Island								
South Carolina								
South Dakota								
Tennessee								
Texas								
Utah								
Vermont								
Virginia								
Washington								
West Virginia								
Wisconsin								
Wyoming								
Offices abroad								
Puerto Rico								
Other areas								
Undistributed								
TOTAL								

Key: FFRDCs = Federally funded research and development centers; RDT&E = Research, Development, Test, and Evaluation.

"Other areas" includes U.S. territories other than Puerto Rico.



"Offices abroad" includes R&D performed or administered in foreign countries by the U.S. government.

"Undistributed" includes Department of Defense obligations for which location of performance cannot be reported.

Footnotes:

- 1 The Federal Intramural column total should equal the Total RDT&E amount for Federal Intramural in Table 6.
- 2 The Businesses Excluding FFRDCs column total should equal the Total RDT&E amount for Businesses Excluding FFRDCs in Table 6.
- 3 The FFRDCs Administered by Industrial Firms column total should equal the Total RDT&E amount for FFRDCs Administered by Industrial Firms in Table 6.
- 4 The Universities and Colleges Excluding FFRDCs column total should equal the Total RDT&E amount for Universities and Colleges Excluding FFRDCs in Table 6.
- 5 The FFRDCs Administered by Universities and Colleges column total should equal the Total RDT&E amount for FFRDCs Administered by Universities and Colleges in Table 6.
- 6 The Nonprofit Institutions Excluding FFRDCs column total should equal the Total RDT&E amount for Nonprofit Institutions Excluding FFRDCs in Table 6.
- 7 The FFRDCs Administered by Nonprofit Institutions column total should equal the Total RDT&E amount for FFRDCs Administered by Nonprofit Institutions in Table 6.
- 8 The State and Local Governments column total should equal Total RDT&E amount for State and Local Governments in Table 6.



**Table 13 - R&D Plant Obligations by State and Performer: FY 2019**

**Agency Code:**

**Agency Name:**

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

State	Federal Intra-mural <sup>1</sup>	Businesses Excluding FFRDCs <sup>2</sup>	FFRDCs Administered by Industrial Firms <sup>3</sup>	Universities and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Administered by Universities and Colleges <sup>5</sup>	Nonprofit Institutions Excluding FFRDCs <sup>6</sup>	FFRDCs Administered by Nonprofit Institutions <sup>7</sup>	State and Local Governments <sup>8</sup>
Alabama								
Alaska								
Arizona								
Arkansas								
California								
Colorado								
Connecticut								
Delaware								
District of Columbia								
Florida								
Georgia								
Hawaii								
Idaho								
Illinois								
Indiana								
Iowa								
Kansas								
Kentucky								
Louisiana								
Maine								
Maryland								
Massachusetts								
Michigan								
Minnesota								
Mississippi								
Missouri								
Montana								
Nebraska								
Nevada								



**Table 13 - R&D Plant Obligations by State and Performer: FY 2019**

State	Federal Intra-mural <sup>1</sup>	Busi-nesses Excluding FFRDCs <sup>2</sup>	FFRDCs Admin-istered by Industrial Firms <sup>3</sup>	Univer-sities and Colleges Excluding FFRDCs <sup>4</sup>	FFRDCs Admin-istered by Univer-sities and Colleges <sup>5</sup>	Nonprofit Institu-tions Excluding FFRDCs <sup>6</sup>	FFRDCs Admin-istered by Nonprofit Institu-tions <sup>7</sup>	State and Local Govern-ments <sup>8</sup>
New Hampshire								
New Jersey								
New Mexico								
New York								
North Carolina								
North Dakota								
Ohio								
Oklahoma								
Oregon								
Pennsylvania								
Rhode Island								
South Carolina								
South Dakota								
Tennessee								
Texas								
Utah								
Vermont								
Virginia								
Washington								
West Virginia								
Wisconsin								
Wyoming								
Offices abroad								
Puerto Rico								
Other areas								
<b>TOTAL (Read Only)</b>								

Please use the space below to add explanations for data reported in this table.

Key: FFRDCs = Federally funded research and development centers.

"Other areas" includes U.S. territories other than Puerto Rico.



"Offices abroad" includes R&D performed or administered in foreign countries by the U.S. government.

Footnotes:

- 1 The Federal Intramural column total should equal the amount reported for Federal Intramural for FY 2019 in Table 11.
- 2 The Businesses Excluding FFRDCs column total should equal the amount reported for Businesses Excluding FFRDCs for FY 2019 in Table 11.
- 3 The FFRDCs Administered by Industrial Firms column total should equal the amount reported for FFRDCs Administered by Industrial Firms for FY 2019 in Table 11.
- 4 The Universities and Colleges Excluding FFRDCs column total should equal the amount reported for Universities and Colleges Excluding FFRDCs for FY 2019 in Table 11.
- 5 The FFRDCs Administered by Universities and Colleges column total should equal the amount reported for FFRDCs Administered by Universities and Colleges for FY 2019 in Table 11.
- 6 The Nonprofit Institutions Excluding FFRDCs column total should equal the amount reported for Nonprofit Institutions Excluding FFRDCs for FY 2019 in Table 11.
- 7 The FFRDCs Administered by Nonprofit Institutions column total should equal the amount reported for FFRDCs Administered by Nonprofit Institutions for FY 2019 in Table 11.
- 8 The State and Local Governments column total should equal the amount reported for State and Local Governments for FY 2019 in Table 11.



**Table 14 - Obligations for Basic, Applied, and Total Research Performed at Universities and Colleges Excluding FFRDCs, by Detailed Field of Science and Engineering: FY 2019**

**Agency Code:**

**Agency Name:**

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

	<b>Basic Research (BA 1)</b>	<b>Applied Research (BA 2)</b>	<b>Total Research<sup>1</sup> (Read Only)</b>
<b>Field of Science and Engineering</b>	FY 2019	FY 2019	FY 2019
<b>Computer Sciences and Mathematics</b>			
Computer Sciences			
Mathematics			
Other Computer Sciences and Mathematics			
Total Computer Sciences and Mathematics (Read Only)			
<b>Engineering</b>			
Aeronautical Engineering			
Astronautical Engineering			
Chemical Engineering			
Civil Engineering			
Electrical Engineering			
Mechanical Engineering			
Metallurgy and Materials Engineering			
Other Engineering			
Total Engineering (Read Only)			
<b>Environmental Sciences</b>			
Atmospheric Sciences			
Geological Sciences			
Oceanography			
Other Environmental Sciences			
Total Environmental Sciences (Read Only)			
<b>Life Sciences</b>			
Agricultural Sciences			
Biological Sciences (excluding Environmental Biology)			
Environmental Biology			
Medical Sciences			
Other Life Sciences			



**Table 14 - Obligations for Basic, Applied, and Total Research Performed at Universities and Colleges Excluding FFRDCs, by Detailed Field of Science and Engineering: FY 2019**

	Basic Research (BA 1)	Applied Research (BA 2)	Total Research <sup>1</sup> (Read Only)
Field of Science and Engineering	FY 2019	FY 2019	FY 2019
Total Life Sciences (Read Only)			
<b>Physical Sciences</b>			
Astronomy			
Chemistry			
Physics			
Other Physical Sciences			
Total Physical Sciences (Read Only)			
<b>Psychology</b>			
Biological Aspects			
Social Aspects			
Other Psychological Sciences			
Total Psychology (Read Only)			
<b>Social Sciences</b>			
Anthropology			
Economics			
Political Science			
Sociology			
Other Social Sciences			
Total Social Sciences (Read Only)			
<b>Other Sciences not elsewhere classified</b>			
TOTAL All Fields <sup>2</sup> (Read Only)			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; FFRDCs = Federally funded research and development centers.

<p>Footnotes:</p> <p>1 Basic Research + Applied Research = Total Research.</p> <p>2 The TOTAL All Fields amounts for Basic Research and Applied Research should equal the amounts reported for Basic Research and Applied Research in Universities and Colleges Excluding FFRDCs in Table 6.</p>
--



**Table 15 - Obligations for Basic, Applied, and Total Research Performed at Universities and Colleges Excluding FFRDCs, by Broad Field of Science and Engineering: FY 2020**

**Agency Code:**

**Agency Name:**

Please report actual dollars for all amounts. Wherever possible, use enacted appropriation rather than annualized Continuing Resolution amounts; do not enter deobligations.

<b>Field of Science and Engineering</b>	<b>Basic Research (BA 1)</b>	<b>Applied Research (BA 2)</b>	<b>Total Research<sup>1</sup> (Read Only)</b>
	FY 2020	FY 2020	FY 2020
Computer Sciences and Mathematics			
Engineering			
Environmental Sciences			
Life Sciences			
Physical Sciences			
Psychology			
Social Sciences			
Other Sciences not elsewhere classified			
<b>TOTAL All Fields<sup>2</sup> (Read Only)</b>			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; FFRDCs = Federally funded research and development centers.

Footnotes:

- 1 Basic Research + Applied Research = Total Research.
- 2 The TOTAL All Fields amounts for Basic Research and Applied Research should equal the amounts reported for Basic Research and Applied Research in Universities and Colleges Excluding FFRDCs in Table 7.



**Table 16 - Obligations for Basic, Applied, and Total Research Performed at Universities and Colleges Excluding FFRDCs, by Broad Field of Science and Engineering: FY 2021**

**Agency Code:**

**Agency Name:**

Please DO NOT report for FY 2021.

	<b>Basic Research (BA 1)</b>	<b>Applied Research (BA 2)</b>	<b>Total Research<sup>1</sup> (Read Only)</b>
<b>Field of Science and Engineering</b>	FY 2021	FY 2021	FY 2021
Computer Sciences and Mathematics			
Engineering			
Environmental Sciences			
Life Sciences			
Physical Sciences			
Psychology			
Social Sciences			
Other Sciences not elsewhere classified			
<b>TOTAL All Fields<sup>2</sup> (Read Only)</b>			

Please use the space below to add explanations for data reported in this table.

Key: BA = Budget Activity; FFRDCs = Federally funded research and development centers.

<p>Footnotes:</p> <p>1 Basic Research + Applied Research = Total Research.</p> <p>2 The TOTAL All Fields amounts for Basic Research and Applied Research should equal the amounts reported for Basic Research and Applied Research in Universities and Colleges Excluding FFRDCs in Table 8.</p>
--



**Final Questions for All Respondents**

1. Approximately how many person hours were required to complete the online Federal Funds Survey? \_\_\_\_\_
2. Do the obligations reported on this survey include appropriated funds only?  
 \_\_\_ Yes, includes appropriated funds only.  
 \_\_\_ No, includes appropriated funds, reimbursable obligations, fees and charges, or other sources.
3. How much of the R&D funding your agency obligated in prior years was deobligated in FY 2019?
  - As examples, deobligations might occur when a contract is cancelled or when not all of the obligated funds are spent, allowing the funds to be re-obligated somewhere else or returned to the Department of the Treasury.
  - Choose one response per row.

	FY 2019 Deobligations					
	None	Less than \$1 million	\$1,000,000 to \$9,999,999	\$10,000,000 to \$49,999,999	\$50,000,000 or more	Not available
R&D conduct						
R&D plant						

If needed, use the space below to provide clarification for the data reported in this question.