

Department of Commerce
United States Census Bureau
OMB Information Collection Request
Survey of State Government Research and Development
OMB Control Number 0607-0933

A. Justification

1. Necessity of the Information Collection

The Census Bureau is requesting clearance to conduct the Survey of State Government Research and Development (SGRD) for the 2020-2022 survey years with the revisions outlined in this document. The Census Bureau conducts this survey on behalf of the National Science Foundation's (NSF) National Center for Science and Engineering Statistics (NCSES). The NSF Act of 1950 includes a statutory charge to "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 in 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..." NCSES also provides the official U.S. statistics on R&D to the Organisation for Economic Cooperation and Development (OECD). OECD measures R&D through R&D personnel data and R&D expenditures. Under the aegis of this legislative mandate, NCSES and its predecessors have sponsored surveys of research and development (R&D) since 1953, including the SGRD since 2006. This survey has helped to expand the scope of R&D collections to include state governments, where previously there had been no regularly established collection efforts, and thus a gap in the national portfolio of R&D statistics.

NCSES sponsors surveys of R&D activities of Federal agencies, higher education institutions, and private industries. The results of these surveys provide a consistent information base for both federal and state government officials, industry professionals, and researchers to use in formulating public policy and planning in science and technology. These surveys allow for the analysis of current and historical trends of R&D in the U.S. and in international comparisons of R&D with other countries. The data collected from the SGRD fills a void that previously existed for collection of R&D activities. Although NCSES conducted periodic data collections of state government R&D in 1995, 1988 and 1987, more frequent collection was necessary to account for the changing dynamic of state governments' role in performing and funding R&D and their role as fiduciary intermediaries of federal funds for R&D. The survey is a census of state government departments, agencies, commissions, public authorities, and other dependent entities as defined by the Census Bureau's Census of Governments program, that performed or funded R&D activities in a given fiscal year.

The Census Bureau, serving as collection agent, employs a methodology similar to the one used to collect information from state and local governments on other established censuses and surveys. This methodology involves identifying a central coordinator in each state who will assist Census Bureau staff in identifying appropriate state agencies to be surveyed. Since not all state agencies have the budget authority or operational capacity to perform or fund R&D, NCSES and Census Bureau staffs have identified those agencies most likely to perform or fund R&D based on state session laws, authorizing legislation, budget authority, previous R&D activities, and reports issued by state government agencies. The state coordinators, based on their knowledge of the state government's own activities and priorities, are asked to confirm which of the selected agencies identified should be sent the survey for a given fiscal year or to add additional agencies to the survey frame. These state coordinators also verify the final responses at the end of the data collection cycle and may assist with nonresponse follow-up with individual state agencies. The collection approach using a central state coordinator is used successfully at the Census Bureau in surveys of local school districts, as well as the annual surveys of state and local government finance.

The FY 2020 survey will include the same content that was collected during the FYs 2016-2019 survey cycles along with two new questions on R&D personnel at state agencies. The new questions are Questions 10 and 11 on the survey form (Attachment C2).

Cognitive testing of the new questions was conducted by the NCSES and a report will be available for OMB upon their request. More information on the cognitive testing can be found in Part B, item 4.

Adding these new questions to the SGRD will improve measures of the national R&D workforce. The addition of these question will help the NCSES fulfil its mandate to provide statistics on research and development for the benefit of U.S. policy makers and for international comparisons of R&D competitiveness.

The survey announcements and forms used in the SGRD are:

Survey Announcement. The Governor's letter (Attachment A) is mailed to the Governor's Office to announce the survey collection and to solicit assignment of a State Coordinator. The State Coordinator's Announcement (Attachment B1) is sent electronically at the beginning of each survey period to solicit assistance in identifying state agencies which may perform or fund R&D activities. Later, state coordinators are asked to review final data submitted by state agencies.

Form SRD-1. This form (Attachment C2) contains item descriptions and definitions of the research and development items collected by the Census Bureau on behalf of the NSF.

Final survey results produced by NCSES contain state and national estimates and are useful to a variety of data users interested in R&D performance, including: The National Science Board; the OMB; the Office of Science and Technology Policy (OSTP) and other science policy makers; institutional researchers; and private organizations; and many state governments.

This survey is conducted under the authority of the National Science Foundation Act of 1950, as amended, the America COMPETES Reauthorization Act of 2010, and collected under Title 13, United States Code, Section 8(b).

2. Need and Uses

Legislators, policy officials, and researchers rely on statistics to make informed decisions about R&D investment at the Federal, state, and local level. These statistics are derived from the existing NCSES sponsored surveys of Federal agencies, higher education institutions, and private industry. The total picture of R&D expenditures, however, had been incomplete due to the lack of data from state governments prior to this implementation of the SGRD in 2006, which now fills that void.

State government officials and policy makers garner the most benefit from the results of this survey. Governors and legislatures need a reliable, comprehensive source of data to help in evaluating how best to attract the high-tech R&D industries to their state. Officials are able to evaluate their investment in R&D based on comparisons with other states. These comparisons include the sources of funding, the type of R&D being conducted, and the type of R&D performer.

State governments serve a unique role within the national portfolio of R&D. Not only are they both performers and funders of R&D like other sectors such as the Federal Government, higher education, or industry, but they also serve as fiduciary intermediaries between the Federal Government and other R&D performers while also providing state specific funds for R&D. The information collected from the SGRD provides data users with perspective on this complex flow of funds. Survey results are used at the Federal level to assess and direct investment in technology and economic issues. Congressional committees and the Congressional Research Service use results of the R&D surveys. The BEA uses these data to estimate the contribution of state agency-funded R&D to the overall impact of treating R&D as an investment in BEA's statistics of gross domestic product by state-area.

NSF also uses data from this survey in various publications produced about the state of R&D in the U.S. The *Science and Engineering Indicators*, for example, is a biennial report mandated by Congress and describes quantitatively the condition of the country's R&D efforts, and includes data from the SGRD. Survey results are also included in the *National Patterns of Research and Development* report's tabulations.

The availability of state R&D survey results are posted to NSF's web page allowing for public access from a variety of other data users as well. Media, university researchers, nonprofit organizations, and foreign government officials are also consumers of state R&D statistics. All users are able to utilize this information in an attempt to better understand the Nation's R&D resources.

Information quality is an integral part of the pre-dissemination review of the information disseminated by the Census Bureau (fully described in Census Bureau Information Quality Guidelines). Information quality is also integral to the information collections conducted by the Census Bureau and is incorporated into the clearance process required by the Paperwork Reduction Act.

3. Use of Information Technology

The Census Bureau notifies state coordinators and agency respondents by email to introduce the survey (Attachments B1 & C1). Many state coordinators will also email individual agency respondents to alert them to the survey and to the importance of representing their state's R&D investments accurately.

The SRD-1 survey form (Attachment C2) is sent as an email attachment to state agency respondents. This fillable-PDF form reduces the time to report and improves respondent experience through: 1) carrying forward values previously entered and auto-summing data where appropriate; and 2) automated data checks. Respondents are instructed to complete the form and email back to the Census Bureau. Alternatively, agency respondents can provide survey responses over the phone by calling a Census analyst.

Respondents will also be able to use the survey web site to access detailed information about the survey, including a graphical representation of R&D funding structures, a list of Frequently Asked Questions, as well as additional resources by linking to the NCSES survey specific web pages.

4. Efforts to Identify Duplication

The Census Bureau and NCSES maintain close liaison and share information with other government agencies that have an interest in R&D statistics to ensure duplication of data collection does not occur. Some of these agencies include, but are not limited to OMB, OSTP, and the BEA. Although some states produce reports or conduct small surveys targeted at specific activities or components of R&D, the SGRD is the only comprehensive source of R&D data on state governments collected on a nationwide scale using uniform definitions, concepts, and procedures.

5. Minimizing Burden

To minimize total burden for the survey, the project staff coordinates with central state contacts to pre-select departments and agencies that likely conduct R&D activities. This phase of the survey helps to eliminate burden from most state government entities that do not have R&D data to report.

Items on the form have been reviewed by state government experts through several iterations of cognitive and usability testing and are consistent with common recordkeeping practices of respondents.

6. Consequences of Less Frequent Collection

NCSES currently sponsors R&D surveys of federal government agencies, academic institutions, and private industry. Data from these organizations are collected on an annual basis and the results are vital to policy makers at all levels of government, to the business community, and to those in the science and technology research community. Less frequent collection of state government R&D data would result in inconsistent comparisons and compilations with these other surveys.

7. Special Circumstances

This information collection is conducted in a manner consistent with OMB guidelines and there are no special circumstances.

8. Consultations Outside the Agency

The published *Federal Register* of January 22, 2020, Volume 85, Number 14, Page. 3607-3609, contained a pre-submission notice inviting comments about the plans to submit this request. No comments were received.

The Census Bureau and the NSF conduct annual debriefings with respondents to the survey. These debriefings inform the agencies on potential improvements to the survey or survey processes. NSF and the Census Bureau routinely present research findings at various conferences both internal and external.

9. Paying Respondents

No payments or gifts are given to respondents of the survey.

10. Assurance of Confidentiality

The data collected in this survey are from public records and do not require confidentiality. Each participant in the survey is informed of this and that this is a voluntary survey through the initial Governors Letter (Attachment A); initial State Coordinator Email (Attachment B1); and initial Agency Respondent email (Attachment C1). Similar statements are included on the Survey Frame-Review Module (Attachment B2), and the State Agency Form (Attachment C2).

11. Justification for Sensitive Questions

There are no questions in the survey that are commonly considered sensitive.

12. Estimate of Hour Burden

The total annual burden estimate we are requesting for this collection is 2,156 hours. The burden requested is higher than what we said in the presubmission notice because we only determined the amount of burden increase after cognitive testing was done.

For the 2020-2022 SGRD, 52 respondents will receive the Governor's Letter (Attachment A). This letter asks respondents to nominate a state coordinator. We estimate this process to take five minutes. Based on interviews with state officials, the estimated burden on each state coordinator is 1 hour. The state coordinators are asked to complete a Survey Frame-Review Module (Attachment B2) that includes the identification of department and agency contacts. The department and agency respondents are asked to complete a fillable-PDF form (Attachment C2) which requires approximately three hours to complete.

RESPONDENT TYPE	NUMBER OF RESPONDENTS	BURDEN ESTIMATE	TOTAL BURDEN HRS.
Governor	52	5 Minutes	4
State Coordinator	52	1 Hour	52
Department/Agency	700	3 Hours	2,100
Total	804		2,156

13. Estimated Cost to Respondents

We do not expect respondents to incur any cost other than their time to respond. The information requested is of the type and scope normally carried in agency records and no special hardware or software is necessary to provide answers to this information collection. Therefore, respondents are not expected to incur any capital and startup costs, or systems maintenance costs in responding. Further, purchasing of outside information collection services, if performed by the respondent, is part of usual and customary business practices and not specifically required for this information collection.

14. Cost to the Federal Government

We expect the total annual cost to the Federal government to be approximately \$400,000 with the cost to be borne by the National Science Foundation. This cost is expected to be relatively constant for 2020-2022.

15. Reason for Change in Burden

We plan to add two new questions on R&D personnel, Questions 10 and 11 on the survey form (Attachment C2). Based on cognitive testing, we estimate the new questions to add an average of 1 hour burden, bringing the total average burden per agency to 3 hours.

We have added approximately 200 state agencies to the survey frame of agencies with the potential to perform or fund R&D activities. Adding these 200 agencies will result in a 600-hour increase in the survey's total burden hour estimate.

16. Project Schedule

For the 2020 survey year, the Governor's letter (Attachment A) will be mailed to the Governor's Office to announce the survey collection and to solicit assignment of a State Coordinator August 3, 2020. The State Coordinator's Announcement (Attachment B1) will be sent via email to State Coordinators in September. As responses are received from State Coordinators, the Census Bureau will begin emailing state agency contacts the survey form (Attachment C2). In succeeding months, project staff will work with state coordinators to conduct non-response efforts with agencies that fail to respond to the initial request. Closeout of all data collection operations is scheduled for June 2021. Data will be reviewed by Census Bureau analysts for accuracy and completeness. Census Bureau staff will produce and deliver final tabulations for NCSES in July 2021. Methodological documentation and technical notes will accompany the final tables.

This is an annual collection and future surveys will follow the same data submission, review, and final tabulation schedule.

17. Request to Not Display the Expiration Date

The expiration date of OMB approval is displayed on the questionnaire.

18. Exceptions to the Certification

The collection of information for the survey complies with 5 CFR 1320.9 without exception.