

MEMORANDUM

Date: September 25, 2020

To: Margo Schwab, Desk Officer
Office of Management and Budget

From: Emilda B. Rivers, Division Director
National Center for Science and Engineering Statistics

Via: Suzanne Plimpton, Reports Clearance Officer
National Science Foundation

Subject: Amendment to OMB Clearance 3145-0100, "Higher Education R&D and FFRDC R&D Surveys"

The National Center for Science and Engineering Statistics (NCSES) requests approval for an amendment to the OMB clearance for the Higher Education R&D and FFRDC R&D Surveys. This amendment specifically concerns the FY 2020 Higher Education R&D (HERD) Survey questionnaire; it does not apply to the FFRDC questionnaire. NCSES requests a revision to the current question on R&D personnel to collect demographic headcounts (researchers, R&D technicians, R&D support staff) by sex, citizenship, and highest level of education completed and the addition of a new question on the number of full-time equivalents for those personnel.

NCSES is also developing questions on the potential disruption to R&D activities at higher education institutions due to the COVID-19 pandemic. Details of the proposed changes are below.

Background

The HERD survey is one of several surveys at the National Center for Science and Engineering Statistics (NCSES), within the National Science Foundation (NSF) that collect comparable information on R&D from different sectors of the economy (e.g., businesses, nonprofits, government). However, the HERD survey does not currently collect as much information about the personnel carrying out R&D activities as do other NCSES R&D sector surveys, making it less useful for measurements of the R&D workforce in the United States. NCSES intends to address this shortcoming by collecting data on the number (headcounts) of R&D personnel by function, and the number of full-time equivalents (FTEs) by R&D function. The United States is the only Organisation for Economic Co-operation and Development (OECD) member country that does not report higher education sector FTEs as published in the OECD's Main Science and Technology Indicators report. These new R&D personnel variables will allow NCSES to provide internationally comparable information not available elsewhere to data users interested in science policy, the nature of the science and engineering workforce, and U.S. R&D competitiveness.

Proposed Changes

NCSES proposes to collect demographic headcounts of R&D personnel (researchers, R&D technicians, R&D support staff) by sex, citizenship, and highest level of education completed. This will be a revision of Question 15. The previous version of Question 15 collected headcounts for two categories: principal investigators and all other personnel, without demographics. NCSES also proposes a new question (Question 16) that will collect the full-time equivalents of the R&D personnel counted in Question 15. These questions will only appear on the HERD standard form that is provided to approximately 650 institutions reporting at least \$1 million in R&D in the previous year. The HERD short form respondents, those reporting at least \$150 thousand but less than \$1 million, will not receive these questions.

The information requested in these questions was first discussed during site visits with HERD institutions in 2017 and 2018, as well as a HERD respondent workshop in September 2019. The wording for the proposed revision to Question 15 and the new Question 16 is based on information gathered at the site visits and workshop and is similar to questions currently found on other NCSES surveys of R&D performers.

NCSES tested the proposed questions through two rounds of interviews with 16 higher education institutions. Each institution participated in a 30-minute cognitive interview, completed the proposed questions on their own, and then participated in a 30-minute respondent debrief interview. The initial interview focused on the wording of the questions, instructions and examples provided, and the ability of the respondent to answer the questions. In the next phase of testing, each institution completed the proposed questions by gathering the required information from others in their institution. During the debrief interviews, the respondent provided feedback on the ease or difficulty of completing the questions as well as the time it took to gather the information and complete the questions.

As part of the iterative process for the interviews, NCSES adjusted the guidance for how to report students on both questions and clarified that respondents should only include research and development personnel paid from R&D accounts. NCSES also provided greater detail under the R&D functions examples and the examples for calculating FTEs. NCSES decided to make the revised Question 15 confidential and only publish these data in the aggregate because some institutions expressed reluctance to publish detailed demographics on employees and students.

NCSES is also currently testing three qualitative questions for the FY 2020 HERD survey designed to provide information on the disruption to higher education R&D performance due to the COVID-19 pandemic. This question development was approved under the generic clearance (ICR Ref. No/RCF ID - 201905-3145-003) on September 03, 2020. NCSES and OMB held a phone meeting on August 14, 2020 to discuss the details of this question development and the subsequent submission of the generic clearance request. NCSES is not currently requesting the approval of these questions but is notifying OMB of the current work and the

anticipated burden for the potential questions. NCSES will report the results of this question development in the coming weeks.

Burden Information

Based on discussions with the 16 respondents regarding the new personnel questions, NCSES expects the increased burden to be approximately 10 hours per HERD standard form institution for a total of 6,500 hours (650 institutions * 10 hours).

NCSES would like to request an additional 238 total hours of burden related to the COVID-19 R&D disruption questions. NCSES estimates that institutions will spend no more than 15 minutes on the possible new questions. This represents an increase in burden of 162.5 hours for standard form respondents (650 institutions * 15 minutes) and 75 hours for short form respondents (300 * 15).

Implementing both changes requires updating the annual burden estimate for the standard and short forms. The previous annual burden estimate for the HERD standard form survey was 35,100 hours; this would be increased to 41,763. The previous annual estimate for the HERD short form survey was 2,400 hours; this would be increased to 2,475.

The total burden estimate for the FFRDC R&D survey remains unchanged at 462. The HERD population review burden estimate remains unchanged at 125.

The new total annual burden is estimated to be 44,825 hours.

Attachments

Attachment 1: FY 2020 HERD Standard Questionnaire