

## MEMORANDUM

**Date:** December 17, 2010

**To:** Shelly Wilkie Martinez, Desk Officer  
Office of Management and Budget

**From:** Lynda T. Carlson, Division Director  
Science Resources Statistics

**Via:** Suzanne Plimpton, Reports Clearance Officer  
National Science Foundation

**Subject:** Notification of cognitive research under generic clearance

This memorandum is to inform you of NSF's plans to conduct cognitive research under the generic clearance for survey improvement projects (OMB number 3145-0174). This research will focus on the ability of very small companies (less than 5 employees) to answer selected research and development (R&D) and innovation related questions. This activity is associated with the planned NSF Microbusiness Innovation Science and Technology Survey. The Microbusiness Innovation Science and Technology is expected to collect R&D and innovation related data from a nationally representative sample of U.S. based companies with fewer than five employees.

### Background

The Division of Science Resources Statistics (SRS) of NSF is broadly tasked with measuring the role of science and technology (S&T) in the United States' economy and abroad. A major component of this activity is its sponsorship of the Business Research and Development (R&D) Innovation Survey (BRDIS), which collects information annually on research and development and related activities performed within the United States by industrial firms. However, businesses with fewer than five employees are excluded from this survey.

The National Academy of Sciences' Committee on National Statistics (CNSTAT) reviewed NSF's portfolio of R&D surveys and in 2004 recommended that NSF explore ways to measure firm innovation and investigate the incidence of R&D activities in growing sectors, such as small business enterprises, not currently covered by BRDIS.

As a result, NSF is planning to undertake a survey of R&D and other innovation-related items among very small (i.e., micro), independent U.S. businesses with fewer than five employees. In addition to general business information -- primary business activity (NAICS code), year business was formed, and number of employees -- this survey proposes to collect data on R&D, innovation funding, employment, related activities (such as sales of significantly improved goods and services; operating agreements and licensing activities; technology transfer; patents and intellectual property; and sources of technical knowledge), measures of these small firms' entrepreneurial effectiveness, and demographic characteristics of the entrepreneur.

NSF has completed work towards the development of a questionnaire. As a result of the CNSTAT recommendation, NSF conducted cognitive interviews in 2008 with 25 U.S. based small businesses that had fewer than five employees. The objective of these interviews was twofold: 1) determine the respondent's ability to answer core R&D related questions extracted from questions asked on NSF's Survey of Business R&D and 2) test a limited set of innovation-related questions (under OMB Control Number 3145-0174). In addition, SRS has conducted a data user workshop. The workshop resulted in additional topics for inclusion in the questionnaire and recommendations on how to move forward with the project.

During the previous rounds of cognitive interviews, SRI spoke to known R&D performers. However, as the intent of the full survey is to speak to a representative sample, we need to speak to a variety of companies with and without R&D. In addition, we also wish to further explore innovation related activities. Therefore, we propose visits to no more than 100 companies to determine the ability of U.S.-based small companies with less than five employees to answer core R&D and innovation related questions.

### Research Plan

The visits will be pre-survey design visits. They will incorporate questions from the questionnaire and ask respondents to provide information on what they need to reference to answer the questionnaire, i.e., do they need to consult with their records or another individual.

We are working with cognitive researchers from SRI. In most cases, an NSF subject matter expert will accompany the researchers to conduct the interviews. These researchers have experience in the pre-survey interview techniques with companies. They have worked with the National Science Foundation on prior projects.

We will use IRS data for sample development for the full survey. However, at this stage we are unable to use IRS data for cognitive interviewing. Therefore we will use other frames, such as Dun and Bradstreet or the Small Business Administration and US Patent and Trademark Office frames. To recruit respondents, we will contact companies by phone and e-mail to make an appointment with an appropriate company representative. After respondents agree to participate, we will send them an e-mail thanking them for their willingness to participate and confirming the appointment. We will audiotape interviews for respondents who give us written permission. We will not be offering payment to respondents.

During FY 2011, we plan to conduct a maximum of 100 cognitive interviews. We aim to minimize respondent burden by asking each company only a subset of questions. The estimated time for completion of the interview is about 60 minutes each for a total of 100 hours (100 interviews x 60 minutes = 100 hours). We also expect to contact 400 companies for recruiting purposes. We expect the recruiting process to take on average 5 minutes per company resulting in 33 hours (400 company contacts x 5 minutes = 33 hours). Thus, we estimate a total burden of no more than 133 hours for this phase of our research.

The contact person for questions regarding this research is:

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