

**Survey of Engineered Nanomaterial Occupational Safety
and Health Practices**

Supporting Statement Part A

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- Goal of the study: The goal of this project is to assess the relevance and impact of NIOSH's contribution to worker safety and health in the context of engineered nanomaterials.
- Intended use of the resulting data: The intended use of this data is to inform NIOSH's research agenda to enhance its relevance and impact on worker safety and health in the context of engineered nanomaterials.
- Methods to be used to collect: Qualitative survey
- The subpopulation studied: Companies who manufacture, distribute, fabricate, formulate, use or provide services related to engineered nanomaterials
- How data will be analyzed: descriptive analysis

A. Supporting Statement A

A.1 Circumstances Making the Collection of Information Necessary

The National Institute for Occupation Safety and Health (NIOSH) of the Centers for Disease Control and Prevention (CDC) is requesting approval from the Office of Management and Budget (OMB) to conduct a survey of companies to learn about the application of NIOSH guidelines and other safety, health, and risk guidelines and practices pertaining to

engineered nanomaterials in the workplace. This is a request for a new collection; approval is requested for two years.

NIOSH is responsible for creating a strategic plan and recommendations for investigating issues specific to occupational safety and health. The number of industries and occupational settings that use nanotechnology and engineered nanomaterials is expanding and diversifying, and the potential for workers to be exposed to these materials in the workplace is increasing. NIOSH plays a crucial role in coordinating research efforts, developing research partnerships, and disseminating information and insights gained from nanotechnology research. Therefore, the information gathered from this study will be used to assess the relevance and impact of NIOSH's contribution to worker safety and health and help inform NIOSH's research agenda to make changes in workplace practice or procedures that yield benefit for worker safety and health in the context of engineered nanomaterials.

NIOSH has contracted with the RAND Corporation, a non-profit research institute to conduct a study of the use of NIOSH findings, products and other outputs by companies to inform

safety and health practices as they related to engineered nanomaterials.

As a part of this study RAND will use qualitative methods to collect data from 500 companies on the general types of engineered nanomaterials handled at the company, safety and health resources, guidelines, practices and training pertaining to engineered nanomaterials.

The collection of this data is authorized by Section 20(a) (1) of the Occupational Safety and Health Act (29 U.S.C.669). A copy of this legislation can be found in Attachment 1.

A.2 Purpose and Use of Information Collection

This data collection will be used to describe how companies handle engineered nanomaterials, the types of engineered nanomaterials used, safety and health practices related to engineered nanomaterials, and to examine NIOSH's contributions to worker general and engineered nanomaterials-specific safety and health practices. Specifically, the study proposes to answer the following research questions, in the context of engineered

nanomaterials:

- (1) How do companies handle or relate to engineered nanomaterials and what types of engineered nanomaterials are used?
- (2) What resources, including NIOSH resources, are used to acquire information about handling or safety and health practices?
- (3) What are the safety and health practices and guidelines being used?
- (4) How has NIOSH contributed to promoting worker safety and health?
- (5) What is the impact of NIOSH's outputs on the handling and/or safety and health practices across companies?

The study results will be used to develop a final report to NIOSH that describes the agency's role and contributions to changes in workplace safety and health practices and determine what additional or alternative inputs, activities, or outputs NIOSH should consider in order to enhance its contributions to worker safety and health as it relates to engineered nanomaterials.

A.3 Use of Improved Information Technology and Burden Reduction

The survey will utilize a web-based instrument for data collection. The web-survey will be formatted to be easy to read and navigate. The web-based survey is estimated to take no more than 20 minutes to complete, including the time it may take respondents to look-up and retrieve needed information.

A Computer Assisted Telephone Interviewing (CATI) system will be used for pre-calls and prompting calls. The CATI will include a call management and case delivery program that allows for multiple phone numbers. The case delivery programs employ study specific prioritization algorithms to route cases to individual interviewers throughout data collection to assure that cases are contacted efficiently.

In addition, a Records Management System (RMS) will be used to manage the survey sample, document interim and final case status codes, and generate progress reports. The RMS will track case status in all modes and will document the actions and outcomes for each and every case in the sample, for all phases of activity. The centralization of record management across survey modes provides for integrated reporting and

control over production.

A.4 Efforts to Identify Duplication and Use of Similar Information

Since 2004, NIOSH has spearheaded several research efforts and collaborated with many researchers in the nanotechnology and engineered nanomaterials field. Although this research has produced several articles pertaining to the safety and health practices for engineered nanomaterials, no detailed research has been completed to determine the extent to which NIOSH's efforts have contributed to worker safety and health through changes in workplace practices and the reduction of workplace-related injuries, illness, or fatalities has not yet been established.

A.5 Impact on Small Businesses or Other Small Entities

The survey includes only the minimum number of questions required to address the research questions. The surveys will have minimal impact on small entities, as only one individual per company will be asked to complete the survey. Further, completion of the survey will require minimal time out of a respondent's workday (approximately 20 minutes to complete including the time it may take the respondent to look-up and retrieve needed information).

A.6 Consequences of Collecting the Information Less Frequent Collection

This survey will be a one-time data collection effort. In the absence of this data collection, NIOSH will not be able to assess the effectiveness and impact of their contributions to worker safety and health pertaining to engineered nanomaterials across a broad range of industries and sectors. Not having access to these data would mean that NIOSH would have limited insights and knowledge to inform their products, services, and outputs to address the needs of a growing and evolving set of engineered nanomaterials-associated industries.

A.7 Special Circumstances Relating to the Guidelines of 5 CFR 1320.5

This request fully complies with the regulation 5 CFR 1320.5(d)(2).

A.8 Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency

The notice required in 5 CFR 1320.8(d) was published in the *Federal Register* on March 14, 2017, vol. 82, No. 48, pp.

13607-13608 (see Attachment 2). CDC did not receive public comments related to this notice.

The RAND Corporation was consulted on this project in 2016.

A list of these persons is provided below:

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A.9 Explanation of any Payment or Gift to Respondents

There will be no payments or gifts to respondents of this survey.

A.10 Protection of Privacy and Confidentiality of Information

Provided by Respondents

NIOSH's Information Systems Security Officer reviewed this submission and determined that the Privacy Act does not apply. The study will collect names and contact information (i.e., address, telephone number, email address) of individuals at companies who will be asked to complete the survey on the company's behalf. Personal identification information (i.e., respondent names) will not be collected in the survey instrument and the unit of sampling is the company, not the individual. Consent language is located in the letters to respondents (see Attachment 4 and Attachment 5), on the cover of the survey instrument (see attachment 7), and in the telephone scripts (see Attachment 3 and Attachment 6).

Data will be treated in a secure manner, unless otherwise compelled by law. Although the individual will be asked to report his/her position and responsibilities and certifications regarding occupational safety and health, this information will be used solely by RAND to categorize and summarize types of respondents for comparison purposes during the analysis phase of the project. Specific information linking organization name and the respondent's

job title to particular survey responses will not be included in any information viewed by NIOSH. Further, the study's briefs and report will not identify any specific organizations. Respondents will be informed in the survey's cover letter that members of the NIOSH will not view specific information on respondents. At the contractor, all potentially identifying information will be carefully secured through password protection, locked file cabinets, and electronic permissions so as to minimize the risk of any breach of security.

A.11 Institutional Review Board (IRB) and Justification for Sensitive Questions

IRB Approval

NIOSH IRB reviewed the project on October 6, 2016. The IRB has determined that this data collection does not meet the definition of research in 45 CFR 46 (Attachment 7).

Sensitive Questions

The NIOSH survey does not include any questions of a sensitive nature. Respondents to the survey will be asked to provide information on the company's general background and use of engineered nanomaterials, resources used for

safety and health practices, the company's safety and health practices and guidelines, types of engineering controls to reduce worker exposure, types of safety and health training and the respondent's current position at company. The questions are not designed to solicit personal information from the respondent other than their role at the company.

It is possible that companies may be concerned about revealing sensitive intellectual property information or information regarding compliance with federal, state or local health and safety regulations. RAND will not share any information that will identify individuals and/or their companies with NIOSH or anyone outside of the RAND research team. All potentially identifying information will be carefully secured so as to minimize the risk of any breach of security.

A.12 Estimates of Annualized Burden Hours and Costs

Survey participants will participate in data collection one time only, responding via a web-based or paper-based survey. Hour burden estimates have been verified during the pretesting of the instrument protocol.

Data collection activities will include pre-calls to 600 companies to determine the appropriate respondent for the survey. Of the 600 companies selected it is anticipated that 500 will complete the survey over two years. The survey will be conducted with 500 company representatives who are likely to be able to provide information on the company's safety and health programs. For large companies the respondent is likely to be an occupational health and safety specialist, at medium and smaller size firms a production or sciences manager is more likely to provide this information.

Estimated Annualized Burden Hours

Type of Respondent	Form Name	Number of Respondents	Number of Responses per Respondent	Average Burden per Response (in hours)	Total Burden Hours
Receptionists	Pre-call	300	1	5/60	25
Occupational health and safety specialists	Survey	100	1	20/60	34
Industrial Production Managers	Survey	75	1	20/60	25
Natural Sciences Managers	Survey	75	1	20/60	25
Total					109

Estimated Annualized Burden Cost

Type of Respondents	Number of respondents	Total burden hours	Average hourly wage rate ⁽¹⁾	Total cost burden
Receptionists	300	25	\$13.67	\$341
Occupational health and safety specialists	100	34	\$34.51	\$1173.34
Industrial Production Managers	75	20	\$49.87	1246.75
Natural Sciences Managers	75	20	\$65.66	1641.50
Total		109		4403.34

(1) Average hourly wage was derived from the Bureau of Labor and Statistics Occupational Employment Statistics (OES) survey for May 2015. The average hourly rate for survey respondents is derived from the mean hourly wages of Receptionists and Information Clerks (43-4171), Occupational Health and Safety Specialists (29-9011, Industrial Production Managers (11-3051), and Natural Sciences Managers (11-9121). (http://www.bls.gov/oes/current/oes_stru.htm)

A.13 Estimates of Other Total Annual Cost Burden to Respondents or Record Keepers

Data collection for this study will not result in any additional capital, start-up, maintenance, or purchase costs to respondents or record keepers.

A.14 Annualized Cost to the Federal Government

NIOSH is supporting the conduct of this data collection and analysis of data as part of the contract with the RAND Corporation. The estimated cost for this work including design, fieldwork, and analysis will be \$144,000 over 36 months (\$48,000 per year). In addition, a portion of the costs are for personnel costs of several Federal employees involved in the oversight and analysis of information collection, amounting to an annualized cost of \$14,285 for Federal labor. The total cost for the assessment is therefore the sum of the contracted data collection cost (\$144,000) and the 36 month Federal labor cost (\$42,855). The total annual cost is \$93,428 over the two years of clearance.

A.15 Explanation for Program Changes or Adjustments

This is a new data collection.

A.16 Plans for Tabulation and Publication and Project Time Schedule

The survey will provide a snapshot of the current state of occupational safety and health practices across industries

identified as being associated with engineered nanomaterials.

The contractor anticipates doing descriptive analysis with the information gleaned from the survey. The analysis will describe the survey sample, response rates, and types of company by industry and size. Further analysis will focus on identify the types of engineered nanomaterials being used in industry and the types of occupational safety and health practices being implemented. It will also evaluate the influence of NIOSH products, services, and outputs on industry occupational safety and health practices.

Descriptive analyses will be characterized by industry and company size. Figures and tables for key variables will be generated as needed.

Open-ended comments will be coded using text analysis software. This information will be summarized in paragraph form, and used to supplement the descriptive information derived from the surveys.

The analysis of data from this assessment will be used to develop a final report to NIOSH.

Project Time Schedule

Activity	Time Schedule
Sample development	1-6 months after OMB approval
Survey pre-calls	6-12 months after OMB approval
Survey data collection	13-24 months after OMB approval
Analysis	25-32 months after OMB approval
Final report	36 months after OMB approval

A.17 Reason(s) Display of OMB Expiration Date is Inappropriate

“The display of the OMB expiration date is not inappropriate.”

A.18 Exceptions to Certification for Paperwork Reduction Act Submissions

There are no exceptions to the certification.