Request for Office of Management and Budget Review and Approval for Federally Sponsored Data Collection

Improving Organizational Management and Worker Behavior through Worksite Communication

Section A

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List of Attachments

The Centers for Disease Control and Prevention (CDC) requests OMB approval of a new research project for the National Institute for Occupational Safety and Health (NIOSH) Mining Program for a three-year period.

- **Goal of the study:** Use Helmet-CAM dust control technology as an assessment tool to determine how mine site leadership communicates and employs a strategic health and safety management system to facilitate workers' health and safety performance, and how these specific communication practices influence worker perceptions of their organizations' safety climate and behaviors that reduce exposure to respirable silica dust.

- **Intended use of the resulting data:** Provide (1) suggestions to mine site leadership about what, when, and how to communicate, via their health and safety management practices, in a way that encourages safer decisions on the job (2) preliminary information for introducing new mine technology – the Helmet-CAM – into the industry with a focus on collective problem identification and solving between workers and management, including behavioral changes and action on behalf of the worker; and (3) initial, necessary data drawn to help establish some necessary information for the future development of best practices in health and safety management implementation and evaluation within mining organizations.

- **Methods to be used to collect:** This study utilizes both mixed methods and multi-methods research designs. Pre/Post surveys, pre/mid/post interviews, and interviews/focus groups will be used. Some respondents will also use new mine technology only to provide talking points during data collection.

- **The subpopulation to be studied:** Mine health and safety managers and mine workers of various industrial mineral mining commodities throughout the United States (e.g., metal/nonmetal, surface sand, stone, and gravel).

- **How data will be analyzed:** Because data is collected during two to three different time points, this study is longitudinal and therefore, process tracing can be used as a means of assessing factors influencing exposure to respirable silica dust during the assessment. Although dust concentration is measured during the Helmet-CAM assessments, this data is not analyzed, only referenced with workers to discuss specific job tasks and behaviors that result in higher exposures to silica dust. The only quantitative data analysis includes workers' pre and post-surveys to answer whether or not the MLI communication model significantly changed mine workers' (1) perception of organizational safety climate and (2) level of proactivity. A paired-samples *t*-test or repeated measures ANOVA will be used. Qualitative data will be consolidated into two finalized sets of integrating notes (worker data and leadership data) and coded using theories of health behavior as categorizing mechanisms. Specifically, the qualitative data will be coded using a three-step analysis process: (1) initial coding of the textual data, in which each piece of text is read word by word to identify initial themes in worker perceptions of personal and organizational H&S and management perceptions of H&S leadership and communication; (2) focused coding of the data, in which text is further scrutinized to characterize and define potentially useful examples provided by participants; and (3) constant comparison of the data to reflect on each theme that continued to emerge across worker and management data, and further examine whether certain themes were similar to one another across workers, managers, job tasks, across mines, in an effort to further identify and collapse codes and themes that support ways to communicate about workers' health and safety behaviors and technology integration.

A. Justification

1. Circumstances Making the Collection of Information Necessary

This information collection request (ICR) is a new request. This collection request describes data collection tasks under the project entitled "Analysis of Health and Safety Management System (HSMS) Practices through Multilevel Interventions." This study is being conducted by the National Institute for Occupational Safety and Health (NIOSH). NIOSH, under P.L. 91-173 as amended by PL 95 -164 (Federal Mine Safety and Health Act of 1977, See Attachment A) has the responsibility to conduct research relating to innovative methods, techniques, and approaches dealing with occupational safety and health problems. Approval is being sought for three years.

A health and safety management system (HSMS) is defined as a set of institutionalized, interrelated, and interacting strategic health and safety (H&S) practices used to establish and achieve occupational H&S goals and behaviors (ANSI/AIHA Z-10; OHSAS 18001; Responsible Care; ILO-OSH-2001). Recommendations based on research commissioned by the National Mining Association (NMA) indicated that every mine should conduct, employ, and evaluate a sound risk management system (Grayson et al., 2006). However, integrating an HSMS into U.S. mining organizations has proved to be a challenging endeavor, perhaps because of the sheer number of possible elements and associated practices that can be applied within an HSMS and the lack of knowledge about implementing these practices. Key elements of an HSMS include *Communication* and *Leadership*.

Communication as a key element within an HSMS is not surprising, as an organization emerges from communication and continues to develop from the communication of its employees. More specifically, organizational communication is termed a "complex, continuous process through which members create, maintain, and change the organization" (Keyton, 2011, p. 12). However, ambivalence exists about how to strategically communicate aspects of health and safety and how this communication is received among employees in the mining industry. To date, little empirical research has been conducted to address the implementation of HSMS communication elements and practices and as a result, more information is needed about communication processes that support health and safety in the mining industry.

For example, Robson et al. (2007) indicated that the scarcity of high-quality published research on the implementation/effectiveness of HSMS is partly because of the difficulties in carrying out such research. These researchers went on to say that many workplaces are not willing to make a commitment to a large intervention that assesses health and safety practices, let alone its evaluation. Therefore, research on a more micro, less abstract level is initially needed to investigate the implementation of a strategic health and safety communication system and how these practices can be effectively implemented within mining organizations – to influence the workgroup and worker to mitigate H&S problems.

Research suggests finding a specific topic to focus on while trying to reveal initial guidance in occupational health and safety. Therefore, the current study focuses on a specific problem within the mining industry to assess how mine site leadership communicates and employs a strategic HSMS to facilitate workers' H&S performance. Multilevel interventions can be implemented to inform how leadership communicates to their employees and what affect(s) this communication has on individual behavior. By assessing the ongoing safety/health interactions between individual workers and their organizational capacities (i.e. levels of leadership and management of safety), and how these interactions influence and shape personal H&S performance, we can better understand what aspects of both systems need attention in a merged, more balanced and comprehensive system of health and safety management (DeJoy, 2005).

Specifically, this project is using mine assessment technology, the Helmet-CAM, as a communication medium to help merge these two systems to inform and address health/safety. Previous research indicates that the use of information technology can enhance lateral and horizontal communication within organizations, showing support for using the Helmet-CAM in the current study (e.g., Hinds & Kiesler, 1995). Via a multilevel intervention that focuses on both management and workers' actions taken to reduce respirable dust exposure over time, OMSHR researchers can begin to identify and analyze what and how communication practices influence worker perceptions of their organizations' H&S values and how these varying communication practices impact subsequent H&S behavior. Eventually, the communication practices identified that are used to manage behavior related to this health issue can be applied in future assessments to inform ways to manage additional health/safety problems within the industry via HSMS elements and practices.

Because the Helmet-CAM technology is highly utilized at many mine sites already, OMSHR believes this is a good technology to bridge the health communication efforts between workers and leadership. For example, when NIOSH researchers were collecting data at a regional safety workshop for a different project (Protocol HSRB 14-OMSHR-07XP), a vice president for health and safety inquired about our upcoming projects. After discussing the current project, he followed-up with us and said, "One of the common themes (concerns) coming out of our hourly brainstorming sessions late in day-2 of the Workshop is "communication". At each Workshop, some hourly sessions (not all) indicated there was a gap between management and hourly communications. With respect to your proposed study regarding using the Helmet-CAM technology to bridge the communication gap between management and hourly workers - we're in 100%" (personal e-mail communication, October 17, 2014).

2. Purpose and Use of Information Collection

Organizational communication surrounding worker behavior and H&S technology use has not been assessed in mining and it is important for NIOSH to collect this information. First, from a health and safety management perspective, since mining is a hazardous and dynamic environment, clear, supportive communication practices and processes are extremely important to improve and maintain the health and safety of workers. The information will be used by NIOSH researchers to guide mine site leadership about ways to communicate in a way that encourages safety decisions on the job. Second, from a H&S technology perspective, guidance is needed about how to not only integrate new technology into a mine's health and safety management system, but also use the technology as a means to bridge worker and management communication about health and safety. In response, another portion of this data collection involves the use of automated, electronic, mechanical or other technological collection techniques or other forms of information technology to more accurately study and assess communication practices on site.

Electronic data collection procedures are being used as a communication mechanism, central to the proposed intervention, to probe dialogue about exposure to respirable dust, in particular, among this population. The Helmet-CAM (Figure 1) incorporates video footage and real-time dust measurements (via the pDR-1500) of workers while performing their job duties and tasks in various locations throughout the workday. However, there is no noise associated with the video because researchers mute the sound while recording.

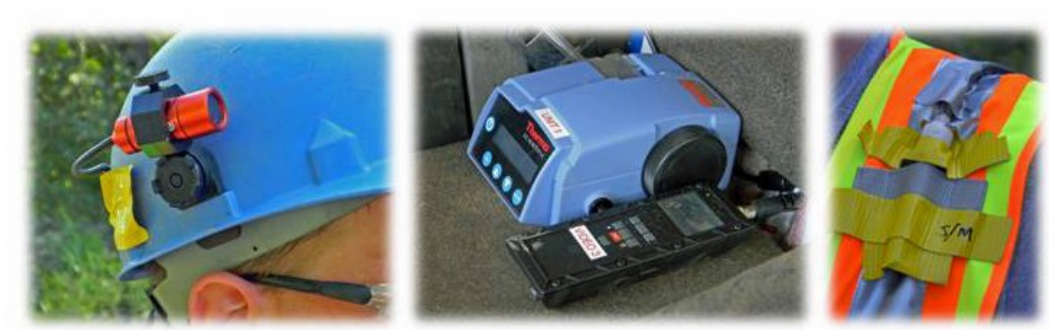

Figure 1. Helmet-CAM system: video camera attached to worker's helmet, pDR-1500 dust monitor and video monitor, and safety vest to hold dust cyclone (shown) and monitors.

This technology has proven to be a viable assessment tool to provide a comparison of where and when miners are being exposed to their highest respirable dust concentrations. As a result, Helmet-CAM technology is being used at many mines to identify dust exposures of workers and to help monitor hazards in the environment. NIOSH is not using this technology as a compliance tool. Rather, the technology is being used as an opportunity to dialogue with workers about their personal experiences and protective behaviors at work. Discussions about the tasks they perform when exposure levels are high and what actions they can take to reduce their dust sources may be valuable in lowering personal exposure. The data is downloaded into EVADE software, created by NIOSH and downloaded on the lap top researchers take into the field – so information is stored to a personal computer. The data file that incorporates the muted video and dust count for a specific time period (see Figure 2), does not contain any identifying information. In addition, this technology will only be worn for a short period of time (approximately one hour) by workers, so full shift dust counts will remain unknown and therefore, does not affect any potential compliance regulations. In general, normal work tasks range from 15 minutes (e.g., changing a screen) to one hour (e.g., unloading a haul truck). Therefore, this timeframe will most likely capture a complete work task cycle that can be debriefed during an interview with the worker. The purpose of going over the Helmet-CAM footage with the participating workers is so they know which parts of their work tasks cause the most exposure to dust, possible ways they can mitigate their exposure, and check on follow-up visits to see if any behavioral or engineering modifications reduce silica exposures.

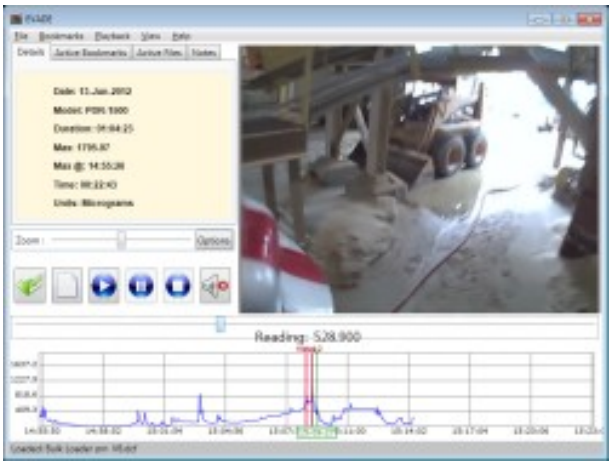

Figure 2. Integrated visual display of worker tasks recorded by Helmet-CAM (top right) and the graph of the worker's dust exposure measured by the aerosol monitor (bottom). The top left shows the EVADE software menu.

The information to be collected (i.e., survey/interview feedback) and/or reviewed during the study (i.e., Helmet-CAM footage) will serve several purposes in improving the safety and health of industrial mineral metal/nonmetal mine workers. Specific outcomes that will be evaluated in this study include to: (1) determine the most feasible and practical communication practices, as used by site leadership, to influence worker health and safety; (2) assess how workers and leaders communicate about safety/health information per the Helmet-CAM, to identify and reduce worker exposures to respirable silica dust over a period of time; (3) determine both engineering controls and corrective behavioral actions, per pre and post assessments using the Helmet-CAM, that can help reduce worker exposures to respirable silica dust; (4) how communication processes, as initiated per the Helmet-CAM content, affect workers' perceptions of organizational health/safety leadership and support; and (5) how Helmet-CAM assessment technology may be integrated into mine sites' common procedures for working across organizational levels to identify and manage health and safety on site.

This data is not available from any other sources. It is essential to begin assessing the optimal emphasis of organizational values for mine safety and health management to ultimately provide guidance to safety and health practitioners, operators, and industry officials. If we do not collect this information, the industry will have no way of knowing the various communication practices in which they should aim to improve with employees and how they can improve upon these practices.Besides disseminating tailored results and considerations to the participating mine sites, NIOSH will distribute results via trade journal outlets, peer-review outlets, and conference presentations to further reach our stakeholders.

This project and data collection has already been fully funded by the NIOSH Office of Mine Safety and Health Research.

3. Use of Improved Information Technology and Burden Reduction

Almost all of the information collected via data collection instruments will require respondents to answer questions during an interview or focus group, or complete a paper-pencil survey. However, in order to reduce burden to the respondents, the pre/post data collection survey for this project will be available to access online via a survey link that will be provided during the consent process. NIOSH wanted to make the survey available both paper-pencil (Attachment C) and web-based (Attachment D) to comply with the Government Paperwork Elimination Act, Public Law 105-277, title XVII, signed into law on October 21, 1998. By providing both options, respondents can choose whichever option they perceive to reduce personal burden. Therefore, we estimate that approximately 5% of responses from participants will involve information technology.

4. Efforts to Identify Duplication and Use of Similar Information

To initiate research in health and safety management practices, processes, and systems, and how to effectively target the worker and organization, NIOSH OMSHR social scientists completed a gap analysis in December 2013 (Haas, 2013). This analysis revealed the need for assessments at different levels to address proactive health/safety decision-making behaviors by the individual mine worker, while taking into account the communicative influences of management (Haas, 2013). The results of the gap analysis guided the overarching purpose of this project: to understand how individual, group, and organizational communication can develop concurrently within a systems approach to influence organizational processes and encourage a model of proactive decision-making that can be managed via a strong health and safety management system. Existing data that addresses some of these topics independently is not sufficient and no similar multilevel data exists that covers these issues.

For instance, the literature review revealed that one of the reasons that management systems of health and safety, in general, are not fully integrated into the mining industry is because the worker perspective and perspective of mine site leadership has not been considered together to fully understand risk-based problems. Researchers (Wachter & Yorio, 2014; DeJoy, 2005) have argued that currently, two separate systems exist with respect to managing and assessing safety – the management systems approach and behavior-based systems approach. These two systems need to be merged to effectively manage safety and health processes within mine organizations.

Previous research supports the approach NIOSH is taking to begin addressing this gap in the literature. To further illustrate, Robson et al. (2007) said that, to answer questions about effectively using an HSMS to improve safety, research needs to follow a sample of workplaces over time, measuring the introduction or utilization of HSMS and then measuring outcomes of interest at the workplace level and at the worker-level too. Therefore, analyzing workers' perception of and leaders' implementation of HSMS practices together may provide more insight into the most feasible practices and approaches to worker H&S within a system. In this case, communication between these two levels needs to be assessed to identify process gaps. This project is initiating such an approach by implementing a series of multilevel intervention case studies that assess the utility of communication about exposure to respirable silica dust, in particular, within a safety system that includes aspects of both safety management on the organizational level and behavior-based safety on the worker level. Thus, the inclusion of HSMS elements and practices into such a behavioral MLI can begin to solve this gap in research to industry practice.

In addition, the gap analysis also revealed that specific data related to the use of engineering control technologies to bridge communication between various levels within an organization – to help improve worker behavior and leadership's implementation of health and safety, does not exist. Specifically, this project is using mine technology, the Helmet-CAM, as a communication medium to help merge these two systems to address health/safety. Numerous engineering publications detail how the Helmet-CAM helps comply with health and safety regulations. However, research that focuses on user integration and behavior is absent in the mining literature. Therefore, NIOSH will be taking several areas absent in current literature and addressing these gaps on multiple levels within mine organizations with a main focus on improving communication processes between workers and management within the mine system.

5. Impact on Small Businesses or Other Small Entities

No small business will be involved in this data collection.

6. Consequences of Collecting the Information Less Frequently

NIOSH's social science researchers are the only individuals in the United States specifically dedicated to the development and testing of instruments that can be used to provide specific, tailored safety/health recommendations to the industry. If NIOSH does not conduct the subject research, it is doubtful the mining industry, academia or enforcement agencies will conduct such an extensive study to assess the communication practices and processes that organizations need to emphasize and implement on their respective sites to support and encourage health/safety behavioral decisions. As the mining industry continues to experiment with new technology, hire new workers, and engage in HSMS development and implementation, it is critical that research be conducted to assess what type of communication processes, including the values leaders emphasize in their communication with workers, influence individual decisions (e.g., vertical communication from supervisors, engagement efforts). If this research is not conducted, assessments and subsequent guidance about how to alter a mine organization's safety climate that supports health/safety will not be disseminated to industry personnel.

The data collection request for the study is for at least two but no more than three responses from participants over a six-week period. Data needs to be collected throughout the duration of the intervention to evaluate the effectiveness of the intervention on miners' changes in health/safety corrective behaviors and leaders' communication frequency and quality with their workers. Without collecting data on a consistent basis, there will be no way to assess a change in participants' behaviors throughout the course of the intervention. To our knowledge there are no legal obstacles to the collection as planned.

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

This request fully complies with the regulation 5 CFR 1320.5.

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

A. A 60-day Federal Register notice was published in the Federal Register on November 17, 2014, Vol. 79, No. 221, pp. 68447-68448 (Attachment B).

On November 17, 2014, one non-substantive comment received. CDC's standard response was sent.

B. There were no personal consults outside NIOSH. No personal consults were made because a worker empowerment workgroup was convened by an OMSHR division director to specifically study this issue and gaps in the research. A team of approximately 15 social scientists and engineers met regularly for several months to discuss literature outside of NIOSH-OMSHR and previous NIOSH-OMSHR studies.

9. Explanation of Any Payment or Gift to Respondents

Respondents will not receive any form of payment or gifts.

10. Assurance of Confidentiality Provided to Respondents

This submission has been reviewed by the CIO who determined that the Privacy Act does not apply to this data collection, since no information in identifiable form (IIF) is being collected.

Mineworkers:
"We will collect information in a room, on the surface, behind closed doors to keep your information as secure as possible. If you choose to participate in this study, you will be asked to provide information at three different time points over a six week period. These three time points include the following:

- A pre- survey, wearing the Helmet-CAM, and completing an interview. This will take no more than two hours.
- An interview that includes wearing the Helmet-CAM. This will take no more than one hour.
- A post- survey and interview that includes a final wearing of the Helmet-CAM. This will take no more than two hours.

The questions that will be asked pose minimal risk to you, if you participate. You may choose not to answer any question. You will not be asked to write your name on any of the materials you complete.

Information collected from you will be kept secure and no individual data will be reported. Please note, the footage on the Helmet-CAM will not be shared with any other individuals except you and is only being used to provide information about dust-control corrective behaviors and possible engineering controls."

Management:
"We will collect information in a room, on the surface, behind closed doors to keep your information as secure as possible. As a member of mine site management, if you choose to participate, you would participate in three short interviews (or focus groups if other members of management would like to participate) to share your knowledge or responsibility regarding how you implement and evaluate HSMS practices. Participation from you or other members of management will last no more than a span of six weeks and include:

- A pre-assessment HSMS interview or focus group that will last no more than one hour.
- A mid-assessment HSMS interview or focus group that will last no more than 30 minutes.
- A post-assessment HSMS interview or focus group that will take no more than 45 minutes.

All data collected from individuals participating in an interview or focus group, depending on the number of interested individuals, will be securely stored. In addition, your organization will be assigned a participant number and a pseudonym so that you and your company name are not written or recorded on any of the information that you provide."

NIOSH OMSHR researchers developed a multilevel intervention (MLI) that utilizes a pre/post survey with workers, the Helmet-CAM as a communication intervention tool, and interviews with workers and site leadership. Mine workers and site leaders who work in a variety of mine operations throughout the U.S., including underground and surface metal/nonmetal commodities, will be recruited through members of mine management to participate in the intervention (Attachment G). Our research team has extensive contacts with a variety of mine organizations and commodities in the United States. We will utilize our contacts to inquire with mine management about first, their willingness to participate as a mining organization and subsequently, the potential willingness of their workers to participate. It is estimated that anywhere from one to three mines per year may be contacted to participate, for a final sample of approximately five to six participating mines over a three-year period. The first site will be a pilot intervention with a corporation and site in which we have done recent Helmet-CAM testing at, to help us become familiar with the data collection instruments and time it takes to set-up the Helmet-CAM on workers. Subsequent sites will be recruited based on (1) commodity and (2) field work history with the organization and site. Specifically, our goal is to engage participating mines that are metal/nonmetal; industrial minerals; and stone, stone, and gravel. Additionally, we will strive to engage mines that both have experience and do not have experience with the Helmet-CAM and also mines that we have not worked with as recently or mines that have reached out to us recently requesting our assistance. By being attentive to these different variables when recruiting, it is anticipated that participating mine sites will be dispersed across the United States.

If mine management agrees to offer the option to participate as an organization (both leadership and worker), NIOSH researchers will travel to the mine site and introduce the study to potential participants. The potential participants will be read a recruitment script (Attachment G and/or H). Finally, if interested in participating, researchers will read and provide respondents participating (i.e., completing surveys, wearing the Helmet-CAM, answering questions during interviews or focus groups) a documented informed consent form (see Attachment I and J) before data collection begins. Management and workers will be given the option of consenting or declining individual participation. Those who decline participation can simply leave the room. The informed consent documents contain the principal investigator's contact information, research point of contact information, and the NIOSH HSRB/IRB contact information.

A hard copy of the survey will be provided to individual workers to be completed using a writing utensil. They also will receive a web link to the survey if they want to retrieve and complete the survey in that format. Researchers may read the survey to mine workers if they want to participate but do not want to read the survey (e.g., if they do not have their reading glasses with them). Then, the researcher will fill in the answers for the participant as requested. For those who complete the paper-pencil survey, researchers will collect all survey forms and sheets from participants when they are finished. The completed surveys will be scanned directly into an SPSS data file using a Scantron iNsight 20 scanner to reduce human error during data entry. The other data collection consists of researchers asking participants questions and recording their answers via note taking. Conversations will not be audio-recorded. Researchers are responsible for typing their notes/summaries as accurately as possible immediately after data collection ends.

It is expected that the mine workers of the participating mines will vary along a number of variables including age, gender, job role, and experience. The number of employees selected for participation at each mine will vary, depending on the size of the mine, time allotted for the mine trip, and workers' willingness to participate. An inclusion criterion for participants is that they must be a mine worker/employee. There are no exclusion criteria.

The number of individual mine workers who wear the Helmet-CAM and participate in pre-, mid-, and post-assessments will not exceed 150. The number of individual leaders who participate in pre-, mid-, and post-assessment data collection will not exceed 30. Therefore, the total sample for these series of interventions will not exceed 180 over a three-year period. We will conduct the research above ground at the mine, on company time during employees' shifts.

Upon arrival on NIOSH's site, data will be summarized and as appropriate by method, entered into computer software applications (i.e. SPSS, Word, Excel) by NIOSH researchers and will be stored on a password-protected NIOSH computer. Hard copy data forms will be kept in a locked cabinet in the PI's locked office at the secure NIOSH Pittsburgh site until all data has been summarized, analyzed and verified (approximately three years from initial data collection). Prior to the finalization of the report all individual subject data will be destroyed. It is estimated the data will be on file for the life of the project and then destroyed. No personal identifiers will be collected that can link an individual.

During the informed consent process, participants are not promised total and absolute confidentiality. However, they are told that all of the data will be private and kept in a secure location.

IRB

- This data collection has been reviewed by the NIOSH Human Subjects Review Board (HSRB) and received notice of approval on December 17, 2014. A copy of the approval letter is provided in Attachment K.

10.1 Privacy Impact Assessment Information

No individually identifiable information is being collected.

11. Justification for Sensitive Questions

Respondents will not be asked questions of a sensitive nature.

12. Estimates of Annualized Burden Hours and Costs

A. The respondents targeted for this study include rank-and-file miners as well as mine safety and health managers. A sample of 180 individuals (up to 150 workers and up to 30 managers) will be collected from various mining operations which have agreed to participate. It is estimated that it will take about 5 minutes to contact a particular mine, discuss the study, and gauge interest in participation (via sending an e-mail or discussing the study on the phone, using Attachment G). Mine sites will be contacted and recruited one at a time, meaning mass recruitment will not occur. Upon receiving approval from a particular site and traveling to the location, it is estimated it will take approximately 5 minutes to further recruit and consent the individual workers and managers (see section 10 of the ICR for recruitment processes and the attached recruitment scripts (Attachment H, I, and J)). The amount of time to complete a data collection instrument each visit will vary from about 15 minutes to one hour, depending on the instrument. Data collection will be done with various data collection instruments during the visits throughout the intervention study. In order to reduce burden to the respondents, not all respondents will wear the Helmet-CAM, be interviewed, or complete the survey – only a small sample at each participating mine. Typically at a mine site the mine operator/manager has particular areas of the mine where they have dust concerns. It is expected that they will choose two to three areas they want to learn more about the exposure levels. Whoever happens to be working that area while we are there would wear the Helmet-CAM. Therefore, the initial sample of workers who wear the Helmet-CAM may be somewhat randomized, depending on the shift rotation during our visit. Having a subsample of workers wear the Helmet-CAM, rather than every worker will significantly reduce the total burden hour.

The following table provides an estimate of the annualized burden hours. The estimates are based on the researcher's previous experience conducting similar methods of data collection.

Estimated Annualized Burden Hours

Type of Respondent	Form Name	No. of Respondents	No. Responses per Respondent	Average Burden per Response (in hours)	Total Burden Hours
Mine & Health Safety Managers/Leaders	Mine Recruitment Script	10	1	5/60	1
	Pre/Mid/Post HSMS Interview /Focus Group Questions	10	3	45/60	23
Individual Mine Workers	Mine Worker Recruitment Script	50	1	5/60	4
	Mine Worker Survey	50	2	15/60	25
	Pre/Mid/Post Behaviors and Helmet-CAM Interview Questions	50	3	90/60	225
Total					278

B. The estimated total cost for this information collection is ($6,932 * 3 years) = $20,796.00

Estimated Annualized Burden Costs

Type of Respondent	Total Burden Hours	Hourly Wage	Total Respondent Costs

		Rate	
Mine Employee	254	$24.44	$6,208
Mine Safety/Health Operator	24	$30.16	$724
			$6,932

The value assigned for the hourly wage rate is based on the average U.S. hourly wage rate for miners available in the following information: Bureau of Labor Statistics, U.S. Department of Labor, *May 2013 National Industry-Specific Occupational Employment and Wage Estimates NAICS 212000 - Mining (except Oil and Gas)*, on the Internet at **http://www.bls.gov/oes/current/naics3_212000.htm#00-0000** (visited *October 21, 2014*).

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

None.

14. Annualized Cost to the Government

Data will be collected for three years. The estimated annual cost to the Federal Government is $58,251.30. This includes data collection by CDC/NIOSH employees, data analysis, and report writing. The hours designated for government staff were calculated as shown in the table below. The total cost average for a three year period is $174,753.90.

	Hours	Hourly Rate	Cost at Hourly Rate	Other Costs (data collection, etc.)	Total
Personnel 2 GS-12-3	780	$36.21	$28,243.80	$7,500	$35,743.80
Personnel 3 GS-12-1	300	$33.94	$10,182	$2,500	$12,682
Personnel 4 GS-14-1	150	$47.70	$7,155	$1,500	$8,655
Personnel 1 GS-9-1	50	$23.41	$1,170.50	$N/A	$1,170.50
Total					$58,251.30

15. Explanation for Program Changes or Adjustments

This is a new data collection.

16. Plans for Tabulation and Publication and Project Time Schedule

Data analyses will be conducted over the life of the project. The project schedule below provides an estimate of data collection activities, analysis, and dissemination. We are estimating no more than five mines to participate throughout the three-year period. This is our best estimate at this time.

Project Time Schedule

Activity	Time Schedule
Intervention at Mine 1	1-3 months after OMB approval
Mine 1 Analysis & Feedback	3-6 months after OMB approval
Intervention at Mine 2	9 months after OMB approval
Mine 2 Analysis & Feedback	12 months after OMB approval
Intervention at Mine 3	15 months after OMB approval
Mine 3 Analysis & Feedback	18 months after OMB approval
Intervention at Mine 4	21 months after OMB approval
Mine 4 Analysis & Feedback	24 months after OMB approval
Intervention at Mine 5	30 months after OMB approval
Mine 5 Analysis & Feedback	33 months after OMB approval
Cumulative Analysis	34 months after OMB approval
Publication	36 months after OMB approval

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

Not applicable. The OMB expiration date will be displayed.

18. Exceptions to Certification for Paperwork Reduction Act Submissions

There are no exceptions to the certification.

Works Cited

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