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DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

[60Day-15-15GD]

Proposed Data Collections Submitted for

Public Comment and Recommendations

The Centers for Disease Control and Prevention (CDC), as part of its continuing effort to reduce public burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995. To request more information on the below proposed project or to obtain a copy of the information collection plan and instruments, call 404-639-7570 or send comments to Leroy A. Richardson, 1600 Clifton Road, MS-D74, Atlanta, GA 30333 or send an email to omb@cdc.gov.

Comments submitted in response to this notice will be summarized and/or included in the request for Office of Management and Budget (OMB) approval. Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the

proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected;(d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; to develop, acquire, install and utilize technology and systems for the purpose of collecting, validating and verifying information, processing and maintaining information, and disclosing and providing information; to train personnel and to be able to respond to a collection of information, to search data sources, to complete and review the collection of information; and to transmit or otherwise disclose the information. Written comments should be received within 60 days of this notice.

Proposed Project

Emergency Self Escape for Coal Miners – New – National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC).

Background and Brief Description

The Centers for Disease Control and Prevention's (CDC) mission is to promote health and quality of life by preventing and controlling disease, injury, and disability. The National Institute for Occupational Safety and Health (NIOSH) provides national and world leadership to prevent work-related illness, injury, disability, and death by gathering information, conducting scientific research, and translating knowledge gained into products and services. NIOSH's mission is critical to the health and safety of every American worker. The Office of Mine Safety and Health Research (OMSHR), one of the preeminent mining research laboratories in the world, is focused on occupational health and safety research for mine workers.

Recent research by the National Academy of Sciences (NAS) has called for a detailed, formal task analysis of mine self-escape (National Research Council, 2013). Such an analysis should identify the knowledge, skills, abilities, and other attributes (KSAOs) needed by mine personnel in the event of a mine disaster to successfully complete an emergency self-escape. This analysis will identify gaps between worker demands and capabilities, and propose recommendations to either minimize those gaps or enhance existing systems (e.g., communications, training, technology).

The purpose of the project is to enhance the ability of miners to escape from underground coal mines in the event of a fire, explosion, collapse of the mine structure, or flooding of the area by toxic gas or water. To escape, miners need to perform a set of tasks that apply specific knowledge and skills in moving through the mine, avoiding dangers, and using protective equipment. The project will identify the tasks, knowledge and skills, procedures, equipment, communications, and physical requirements of self-escape. The results are expected to lead to recommendations for improvements to task requirements and procedures, equipment, training and communication processes.

NIOSH proposes this three-year study to better understand the requirements of emergency self-escape and to answer the following questions:

- What tasks (and critical tasks) do miners perform during self-escape?
- What knowledge beyond that needed to perform normal, routine mining tasks do miners require to facilitate successful self-escape?
- What are the cognitive requirements (such as reasoning, or weighing and deciding among alternatives, recognizing when a course of action is not producing the intended results) beyond that needed to perform normal, routine mining tasks?

- What other cognitive abilities or other cognitive competencies are needed?
- What gaps exist between what miners are required to do for self-escape and their capabilities?
- How can self-escape be improved by redesigning, eliminating, or modifying tasks or training, or by altering or introducing specific technologies/tools?

To answer these questions, we will use a task analysis study design that utilizes a multiple-method approach, to include a) review of available research, b) interviews and focus group meetings with participants, and c) unobtrusive observation (e.g., of drills). During interviews and focus groups, targeted questions are asked to elicit the level and type of desired information. This system of collecting information is "active" in that participants are presented stimuli (e.g., disaster scenarios, worker roles) and asked directly to provide their perceptions (e.g., of tasks or cognitive requirements needed to accomplish self-escape in that disaster). Observation checklists have been developed to capture relevant information during the unobtrusive naturalistic observations of self-escape drills. These data are then organized, collated, and re-presented to participants for confirmation of accuracy. Recommendations are generated based on study findings, related research and

practices, and logical inference.

Participants will be mining personnel drawn from two operating coal mines, one large and one smaller mine, to represent the variety within the industry. The data collection schedule (e.g., timing and duration of interviews and focus groups) will be modified as needed to minimize disruption to mine operations. No more than 30 miner volunteers will participate in the study over three years. Minimal time (< 5 minutes each) will be spent in recruitment and obtaining informed consent. Semi-structured interviews with mine personnel will require 1.5 – 2 hours of their time depending on the interview. Focus group sessions will require approximately 12 hours of their time total but will be executed in smaller blocks of time. Observation of drills will occur as part of normal mine operations and will not result in any additional burden on the respondents. All participants will be between the ages of 18 and 75, currently employed, and living in the United States.

There is no cost to respondents other than their time.

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
Underground coal miners	Recruitment Script	30	1	5/60	3
Underground coal miners	Informed Consent	30	1	5/60	3

Underground coal miners	Initial Interviews	6	1	90/60	9
Underground coal miners	Cognitive Task Analysis Interviews	12	2	2	48
Underground coal miners	Initial focus group sessions	12	6	2	144
Underground coal miners	Hierarchical Task Analysis focus group sessions	12	6	2	144
Total					351

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Office of the Associate Director for Science
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