

Grant AFC215-25

Title: Effective MERD Training - Design, Implementation, Retention and Evaluation

Organization: UMWA Career Centers, Inc.

Principal Investigator(s): Marlon Whoolery, Douglas J. Myers

Partnerships: West Virginia University

Focus Area: Mine Escape, Rescue, and Training

Topical Area: Training and Decision Making

Problem Statement and Justification: The matter of effective response in the immediate aftermath of a mine disaster remains a very serious concern. In this study, we will assess the effectiveness of the currently mandated training required of Responsible Persons employed in mines in Pennsylvania, Ohio and West Virginia with regard to their ability to coordinate and implement their mine's Emergency Response Plan in a disastrous event. We will also explore whether Mine Emergency Response Development exercises conducted by the UMWA Career Centers, Inc.'s Mining Technology and Training Center are a more effective form of Responsible Person training than is currently required by the Mine Safety and Health Administration. This proposal is saturated with historical data emphasizing the need for more comprehensive, specialized training for the Responsible Persons within a Command Center. The decisions made by the Responsible Persons in the first hours after a mine disaster ultimately determine the number of lives saved or lost. Our research focuses on the coal mining industry, particularly mine escape, rescue and training. It is our hope that the results obtained from this study will be used at other training facilities and become the norm, therefore improving the safety of miners throughout the industry.

Impact of the Research: Our specific aims focus on Mine Escape, Rescue and Training as identified in the solicitation and are designed to determine if the current training gives the Responsible Persons and Mine Rescue Team members the necessary skills to lead to proper and successful decision making during a mine emergency. We believe that this evaluation research will demonstrate the value of training that goes beyond what is currently legally required.

Objectives and Research Approach: The study will use quantitative and qualitative methods to: 1) assess the effectiveness of the currently mandated Responsible Persons training and 2) compare the performance of these individuals and teams with that of a second group of Responsible Persons who have gone through a training program developed by the United Mine Workers of America Career Centers, Inc. personnel at the Mining Technology and Training Center (MTTC). Responsible Persons will be evaluated as they direct Mine Rescue Teams during Mine Emergency Response Development exercises conducted at the MTTC. A quasi-experimental design will be used to evaluate the potential improvements in mine rescue performance of the Responsible Persons who were trained at the MTTC.