

USBM Health and Safety Legacy Continues Under NIOSH

The Pittsburgh (Pa.) and Spokane (Wash.) Research Laboratories are among the world's foremost mining research establishments. Once a part of the former U.S. Bureau of Mines (USBM), which was abolished by the U.S. Congress in fiscal year 96, health and safety research at these laboratories was transferred to the National Institute for Occupational Safety and Health (NIOSH). NIOSH is the Federal agency responsible for conducting research and making recommendations for the prevention of work-related illness and injury. The Institute is part of the Centers for Disease Control and Prevention within the U.S. Department of Health and Human Services.

Over the past two decades, the Pittsburgh and Spokane Research Laboratories have produced sustained technological achievements in mining health and safety, including—

- Development of novel respirable coal dust control technologies and more effective monitoring techniques to reduce worker exposure to hazardous mine dusts.
- Improved ground control technologies to warn and protect miners from the dangers of coal mine roof collapses and other hazardous strata conditions.
- Improved ergonomic design criteria and training methods to protect mine workers from injuries and fatalities associated with equipment and manual tasks.
- Development of enabling technologies that allow miners to control their mining equipment from a physically safe, protected work area away from respirable dust, harmful noise levels, and roof collapses.
- Improved mine fire detection and extinguishment techniques.
- Development of smaller, lighter, and safer emergency breathing devices.

Research at the Pittsburgh and Spokane Research Laboratories has reached a high degree of maturity, with numerous techniques and procedures already in use or approaching the point where they can be applied by the U.S. mining industry. However, much remains to be done, because traditional causes of injuries and fatalities and the potential for underground disasters still exists in U.S. mines today. For example, mine roof collapses account for a major portion of underground deaths and injuries. Respirable coal mine dust, which can lead to “black lung” disease, and harmful noise levels remain persistent health concerns. The introduction of novel high-productivity mining technologies may create hazards not yet recognized.

The transition of mining health and safety research from the former USBM into NIOSH creates a novel approach and partnership for improving the health and reducing the risks of injury and fatality for all mine workers. The strengths of the public health model, derived from the medical sciences, are greatly enhanced with the integration of a solutions-oriented engineering expertise. This partnership improves the health of workers and reduces their risks of injury and fatality by—

1. Establishing research priorities based on accurate surveillance data;
2. Developing interventions from products of research and emerging technologies;
3. Assessing the effectiveness of interventions; and
4. Delivering products of research and knowledge to people who can prevent disease, injuries, and death in the workplace.

With extensive input from customers and stakeholders, this novel safety and health improvement model places special emphasis on the following research areas: dust control and measurement, including silica, diesel, and toxic substances; hearing loss prevention; human factors; haulage; equipment design; surface and noncoal mining; new and emerging practices and technologies; fires and explosions; life support; and ground control.

Under their new home with NIOSH, the Pittsburgh and Spokane Research Laboratories will aggressively continue their efforts to develop the science and technology to protect the health and safety of U.S. mine workers into the 21st century. To receive additional information about mining issues or other occupational safety and health problems, call 1-800-35-NIOSH (1-800-356-4674), or visit the NIOSH Home Page on the World Wide Web at <http://www.cdc.gov/niosh/homepage.html>

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