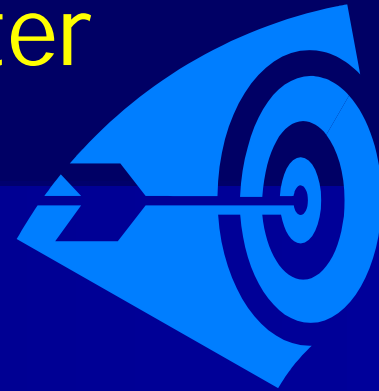


Western U.S. Mining Safety and Health Training and Translation Center

- ★ Funded by National Institute for Occupational Safety and Health (NIOSH) through a National Institutes of Health (NIH) program review process
- ★ Grant: \$4.02 million over 5 years; \$1 million Sep 1, 2004 – Aug 31, 2005
- ★ Consortium of 4 universities with UMR in the lead, including Colorado School of Mines, Montana Tech, Utah
- ★ 15 education projects; 1 translation project
- ★ Administrative and planning core



Western U.S. Mining Safety and Health Training and Translation Center



Aims and Objectives

- ★ The primary specific aim of this project is to reduce the number of injuries to miners through an integrated program of training intervention and translational research.
- ★ This project will specifically develop and implement a broadly collaborative western U.S. program that does the following:
 1. Identifies the training needs of mining personnel, today and in the near future;

Western U.S. Mining Safety and Health Training and Translation Center



Aims and Objectives - continued

2. Develop and conduct a coordinated, systematic, targeted, and multi-faceted Western training program, which addresses prioritized mine safety and health issues;
3. Provide qualified instructors and faculty across the West to train mining personnel in thrust areas;
4. Evaluate the effectiveness and impact of the training program on reducing injuries to mining personnel;

Western U.S. Mining Safety and Health Training and Translation Center

Aims and Objectives - continued

5. Conduct limited translational projects that convert essential mining occupational health and safety research results with limited dissemination into information, resources, and tools that can achieve wider dissemination.



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Education Projects

- ★ Evaluation and Control of Diesel Particulate Matter in Western Metal/Nonmetal Mines – Tien, UMR
- ★ Surface Mine Haulage Safety – McGuire, CSM
- ★ Mine Rescue Training – Fuller, CSM
- ★ Basic Mine Ventilation – Pierce, CSM
- ★ First Responder at Mine Sites Training – Ferriter, CSM
- ★ Explosives and Blasting Safety – Fischer, CSM



FIGURE 9.4 Axial-flow fans, model 8HU117, dual installation. (By permission from Jeffrey Mining Machinery Division, Dresser Industries, Inc., Columbus, OH).

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Education Projects

- ★ Highwall Safety and Stability – Ferriter, CSM
- ★ Introduction to Industrial Hygiene and Dust Control – Dmytriw, CSM
- ★ Fundamentals of Noise – Dmytriw, CSM
- ★ Inspection of Embankment Dams – Dmytriw, CSM
- ★ Ground Control (Underground Operations) – Ferriter, CSM
- ★ Mine Radiation, Home Radon – Beckman, CSM



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Education Projects

- ★ Hazard Identification and Risk Assessment for Small Mines in Western United States – Calizaya and Nelson, Utah
- ★ Jackleg Drilling and Bolting Injury Reduction – Patton, Hart, Cronoble, Jensen; Montana Tech
- ★ Material-Handling Injury Reduction in Western Metal/Nonmetal Mines – Patton, Montana Tech

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Translation Project

- ★ Virtual Reality-Based Training of Underground Mining Roof Bolters – Grayson, Apel, Hilgers, Hall; UMR



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Procedures for Education Projects

- ★ Assessment of Training Needs
- ★ Establishing Training Objectives
- ★ Specifying Training Content and Delivery Method
- ★ Accounting for Individual Differences

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Procedures for Education Projects

- ★ Specifying Learning Conditions
- ★ Evaluation of Prototype/Training
- ★ Revision of Training
- ★ Outcomes Assessment

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The following program training outcome will be pursued:

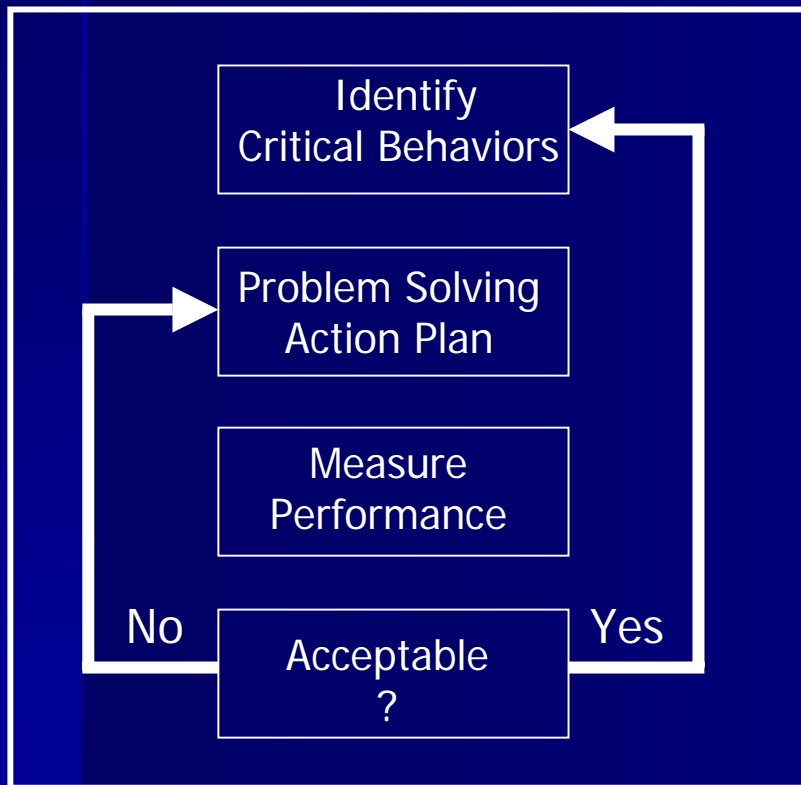


Develop a clearinghouse for mining-related training resources and increase the level of access to them as well as the extent of dissemination on

★ resource availability, and the distribution of materials.

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Figure 1. The Continuous Improvement Safety Process



* Critical behaviors may be identified by analysis of relevant incident reports, interview of miners, observation of miners at work, and by review of work practices, job safety analyses, procedure manuals, etc.

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Description of how evaluations of training impacts on behavior will be done

Timeline for evaluations:

- ★ Train-evaluate (a few days),
- ★ Follow-up assessment of effectiveness and achievement of outcomes surveys (within 1 month),
- ★ Observation-evaluation of safe performances (within 2 to 3 months), to be repeated for each relevant training intervention.