

ENVIRONMENTAL TRAINING TO MAINTAIN REGULATORY

COMPLIANCE AT A SURFACE COAL MINE¹

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Abstract--Training has historically been an important element in surface coal mining operations, with a emphasis on safety. Environmental training also serves an important role in surface coal mining operations at The Coteau Properties Company Freedom Mine in western North Dakota. The goal of environmental training is to maintain regulatory compliance through a knowledgeable work force and staff. Personal responsibility for environmental compliance is the underlying concept stressed in all aspects of training. New hires learn that compliance is a team effort, rather than the responsibility of only the mine environmental specialist. All new miners receive four hours of general environmental training, primarily concerning soils and water handling, but also emphasizing history of reclamation, agency inspection procedures, mine permit requirements, dust control, blasting operations, sign and setback requirements, and handling of hazardous wastes. Annual refreshers are given, specific to each operations and engineering area. Continuous environmental training is provided by memos, news flyers, displays, and a bulletin board. Personnel are kept updated on regulatory developments and governmental agency policy changes. This training program has been effective in maintaining environmental compliance despite an extremely rapid growth rate during mine start-up and development.

Training has historically been an important element in surface coal mining operations. Equipment operations, maintenance, and safety have been the focus of most training, with greatest emphasis on safety. Environmental training has also received attention over the last several years, primarily in response to passage of laws mandating certain environmental practices (1977 Surface Mining Control and Reclamation Act [SMCRA], 1976 Resource Conservation and Recovery Act [RCRA], and the Clean Water Act).

The Western Division of The North American Coal Corporation was the first in North Dakota to develop an environmental training

program for surface coal mining operations. The Coteau Properties Company is a subsidiary of North American Coal, and this paper discusses the environmental training program in use at Coteau's Freedom Mine.

The Freedom Mine is located about 10 miles north of Beulah, North Dakota, in the western part of the State. It currently produces over 9 million tons per year of lignite. This is delivered directly to the adjacent Basin Electric Power Cooperative's Antelope Valley Station, where it is used to generate electricity, and to the ANG Coal Gasification Plant, also adjacent, where lignite is converted to synthetic natural gas.

¹ Paper presented to the combined Fourth Biennial Billings Symposium on Mining and Reclamation in the West and The National Meeting of the American Society for Surface Mining and Reclamation. March 16-20, 1987. Billings, MT.

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Mine development has occurred at an extremely rapid pace, beginning in the late 1970's, with first regular coal deliveries in 1983. Coal mined progressed from 0 tons in 1982 to 880,000 tons in 1983, 3,570,000 in 1984, and 7,720,000 in 1985. The active mine area (disturbed area) was 558 acres in 1981, and it steadily increased to 2,198 acres in 1985. Annual new land disturbance now averages 500 to 600 acres, with reclaimed land acreages

increasing in a like manner. Prior to 1982, a small work force consisted of several transfers from The Falkirk Mining Company, a sister subsidiary about 50 miles away. However, as the mine rapidly developed, additional employees were hired who were generally inexperienced. An environmental training program was one factor in accomplishing the mine development, with no violations resulting from environmental disturbance received.

The most important part of Coteau's environmental training program is the concept of personal responsibility for environmental compliance. It is Coteau's philosophy that each person is responsible for following proper environmental procedures in his or her work area. Environmental compliance is viewed as a team effort, with responsibility shared among all mine site work force and staff. If anyone sees an environmental problem, they are required to report it to their supervisor or the mine environmental specialist, who can then take action to rectify the problem. The emphasis on compliance is exemplified in senior management's commitment to a "zero violation policy" and is demonstrated in a written statement of intent, posted on Company bulletin boards.

All new miners receive 40 hours of Company provided training immediately, although MSHA (Mine Safety and Health Administration) requires only 24 hours. Four hours of new miner training are devoted to environmental operations and compliance. An environmental handbook accompanies the slide presentation and classroom discussion, and displays are used in the training process. A field tour of the operations is generally included, and a final exam is given at the end of the class. Rather than just testing knowledge gained during the class, the exam is used as another teaching tool, as questions and answers are discussed by the class.

Using the concept of personal responsibility as a basic premise, topics for the class include:

History of reclamation and reclamation laws: This develops an appreciation for the origins of our reclamation laws and helps employees understand the evolution of rules and regulations.

Government agencies relationships: Many do not realize that we deal with a great number of agencies. The tremendous regulatory influence of government in surface coal mining is underscored by this discussion.

Inspection and enforcement procedures: Our policies toward government inspectors are discussed, reviewing specifically what

inspectors may and may not do while on the property. Personnel are advised that inspections can occur anytime, day or night.

Penalties for non-compliance: Civil and criminal penalties are discussed. We review regulations which describe penalties for individuals (as well as corporation), again underscoring the concept of personal responsibility for environmental compliance.

General overview of the steps in surface mining/reclamation: For many new hires, this job is their first exposure to surface mining. Extremely important activities may not be well understood, or seem insignificant to those unfamiliar with the process of surface mining (e.g., writing a mining permit, obtaining bonds, or establishing water management).

Signs and setback requirements: Miners must know the importance of signs, including our color coding system for signs and stakes, and how signs direct operators in the field. Heavy equipment operators are also taught about avoidance areas (e.g., 100 feet from cemetery boundaries) and the reasons for them.

Proper procedures for handling or protecting soil, water, and air: Scraper and bulldozer operators are given the fundamentals for handling topsoil and subsoil in the best ways to prevent contamination and avoid compaction. The proper operation and maintenance of water management structures (e.g., sediment ponds, diversions, sumps) is discussed, and those working in the field learn never to hesitate calling for a water truck when dust is a potential problem.

Wildlife: Individuals sighting wildlife are asked to report their findings. Suggestions for projects enhancing wildlife on the mine site are encouraged.

Hazardous/non-hazardous waste disposal and oil or fuel spill cleanup procedures: New miners learn the importance of quick and proper response in case of an oil or fuel spill. Disposal procedures for different types of waste are discussed.

Importance of communication in maintaining compliance and Company policies toward environmental compliance: Coteau's "no violation" policy is posted as a statement of intent, and miners learn that communication is the key to this policy. Now that individuals have received this training, they know the fundamentals for environmental compliance and should be prepared to accept responsibility in this regard.

Ongoing training is another major part of Coteau's program. At least annually, and sometimes more often, the mine's environmental specialist meets with different crews to review topics pertinent to their individual work

areas. For example, meetings may be held with reclamation crews as winter approaches, and ripping of the soil, handling snow, and the importance of establishing proper drainage in preparation for spring runoff is discussed. Maintenance crews may be given a special refresher on handling oil spills or precautions regarding fueling and servicing heavy equipment. If brief, the review sessions are attached to the crews' weekly safety meeting. Longer sessions sometimes require a special meeting.

Continuous training is also provided by occasional memos, flyers, or newsletters that supervisors can review with their crews. Such memos may describe policy changes in government agencies that regulate surface mining or highlight special problems in a particular area of the mine. A bulletin board is located near the shift change area, specifically for environmental news or notices. Displays are set up occasionally to demonstrate certain topics.

In summary, The Coteau Properties Company promotes the concept of personal responsibility for environmental compliance and provides initial class training of the proper environmental procedures at the Freedom Mine. For an environmental training program to work effectively, it must maintain the interest of those involved. Coteau maintains such interest by refresher classes, new displays, updates for supervisors to pass on to their crews, and a bulletin board. This ongoing training not only results in a more knowledgeable work force, with regard to environmental affairs, but also demonstrates the commitment of the Company to maintain total environmental compliance.

