

Dangers of mining: safety in mining industry



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Mining has always been a highly dangerous occupation with a death and injury rate matched by few other occupations, perhaps by none (Scott 1988) (Giebsen, 1995 p. 40). Health and safety is an area of consideration in which mineral industry has advanced dramatically in recent decades. However, improvement in the public image of mining has not automatically followed, although the enhancement of safety and imagery of the mining industry has been established as the primary goal in the last centuries (Hatman and Mutmansky, p. 45).

Despite improvements in mining technology and engineering, 20th century miners still confront risks from gas, falling rocks, and diseases that are presented in this type of occupation (Sauer, 2002 p. 25). The mining enhancements are result of the combined efforts of the federal government, the state governments, mining companies, miner's unions, and the many individuals who work in the general area of mine health and safety. It takes the cooperation of all personnel to make significant improvements in safety in an industry where hazards are common (Hatman and Mutmansky, p. 45).

With the advent of technological means of facilitating safety not only on the miners themselves (Giebsen, 1995 p. 40), but also the environment being mined, the enhancements claimed might claim the reduction of mortality and morbidity rates (Hatman and Mutmansky, p. 45); however, risks still continue despite of these enhancements (Sauer, 2002 p. 25; Giebsen, 1995 p. 40). In addition, dealing with the forces of nature is the most unpredictable occupation to consider.

Safety regulations are essential to prevent further calamities resulted by these firm, and also, to prevent extensive use of environmental resources, which can further contribute to the incidents against safety (Hatman and Mutmansky, p. 45). Scope and Limitations The study aims to portray the status of the mining industry present these days, especially in terms of the safety measures being implicated and the hazard protection measure that they are providing for their employees. In addition, the study shall provide various instances of mining accidents that have occurred in the past and present conditions of mining.

By validation and data review, the study shall provide safety measurements being implemented on various countries. In addition, the study shall also consider the ethical considerations, governmental involvement both in past and present, and liability placements between either the employees or employers themselves. The following shall be the objectives of the overall research paper: a. To be able to provide support-based and validated historical and present account that shall depict the current conditions of the mining industry b.

To be able to analyze and illustrate various significant mining incidents that have occurred in the past, which also connotes the utmost significance Purpose of the Research The primary significance of the research is to provide awareness expansion among the readers in terms of mining dangers and the exposed factors that risks the conditions of these miners. By providing this subject of study, further elaboration of their conditions and the safety measures can further provide other suggestive safety measure that may improve the welfare of the miners and the industry itself.

Discussion From the earliest written records on human occupation, mining has been characterized as a dangerous trade with a high probability of injury, illness, or worse (Karmis, 2001 p. 17; Giebsen, 1995 p. 40). Such characterization developed over thousands of years during which life was fragile for those who removed and processed ore. Regrettably, mining accidents were often viewed as one of the tragic costs of extracting materials necessary for the development of modern life (Karmis, 2001 p. 17).

The Mining Industry

Currently, mining is among the safest industries in the United States as reflected by comparable industry fatality and injury rates (National Safety Council, 1998) These improvements are the result of a number of factors including: (1) Improved mining methods, such as increased automation and other procedures, which have limited the interaction between man, machine, and mined materials, (2) Routine general education and specialized hazard training for workers, (3) Broader understanding and application of health and safety management systems and techniques, and lastly, (4) greater recognitions of the moral imperative to protect the industry's greatest asset- its people (Karmis, 2001 p. 17).

The bureau of mines has a broad mandate covering not only technology for improved productivity but also land use, environmental protection, health and safety statistical information, policy analysis, and national security. The bureaus' research focuses on equipment safety, mining methods, and monitoring; to a degree it coincides with the interests of both the Mine Safety and Health Administration and the National Institute for Occupational

Safety and Health (National Research Council, 1990 p. 109). The Mining Accidents However, contrary to the said outcomes, the epidemiological rates that have occurred in the past years have increased dramatically during the year 2002 and 2003.

According to the U. S Department of Labor, there has been an increase in general accident rate from 20% in 2002 up to 42% in 2003 at mining plants exploiting common minerals (Hardygora, 2004 p. 837). In terms of the most recent years, 2004 possessed the fatality ratings of 13, while 2004 increased to 14, 2006 progressed dramatic results of 35, but dropped to 15 during the 3rd quarter of 2007. In the five years between 1981 and 1986, production of coal was low, and only slightly more than 32, 000 people worked for the coal companies in the state of West Virginia. Yet even in those 5 years, an average of 22. 6 died in the mines each year (Giebsen, 1995 p. 40). Between 1900 and 1968, over 71, 000 coal miners had died and over 300, 000 miners had been totally disabled with black lung disease.

Untold thousands of coal miners had been injured, he argued, because the Federal government had no means of enforcing mine safety standards and mining regulations. Safety ensured before the accidents and safety ensured now Mining companies have also been involved in programs of worker health and safety. In the past, these mainly involved improvements in working conditions in the mines such as through safety measures to reduce injuries or air conditioning to reduce heat stress. Over the past 30 years, evidence has accumulated that miners also experience an excess of Chronic Obstructive Pulmonary Disease (COPD), and such condition has led to serious

health and safety measure requirements, especially in today's coal mining industries (Souza, 2002 p. 479).

Health hazards, validated by the epidemiological statistics, had decreased significantly compared from the data obtained from the past results. The decrease of fatality ratings is due to the enhancement of safety measures, such as mine ventilations, and provisions of regulatory statutes. Currently, various organizations and associations, such as Board of Certified Safety Professionals (BCSP), Associate Safety Professional (ASP), Certified Safety Professionals (CSP) and American Board of Industrial Hygiene (ABIH) are providing outstanding enhancements and safety precautions for the benefit of the miners.

Safety Comparisons: US to Other Countries within Mining Industries Mine Safety and Health Administration (MSHA) of U. S Department of Labor provides the Federal Mine Safety and Health Act of 1977 or also known as Mine Act in order to safeguard the population of miners from probable hazards that may occur in the mining sites. The act is implemented in the U. S based mining industries that mandates safety and health standards that aims to eliminate fatality rates, reduction of accident occurrences, and promotions of safety measures (Souza, 2002 p. 479). However, in Asian countries, especially third world parts wherein employment opportunities are very scarce, miners are not usually granted with adequate safety measurements.

Health conditions and environmental damages are the primary causative effects of mining (Hardygora, 2004 p. 837). The History and Present of

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Government Involvement Since the demise of the United States Bureau of Mines (USBM) in 1996, the level of federal research to assist the mining industry in the United States has fallen and has not been well coordinated. One exception is research on occupational health and safety in the mining industry, which is being overseen by NIOSH. As awareness of environmental concerns has increased, numerous research programs have been initiated throughout the federal government to develop new and improved methods of remediating historic coal and metal mining wastes (National Research Council, 1990 p. 61).

However, many other federal research and development programs dealing with transportation, excavation, basic chemical processes, and novel materials could ultimately be of help to the mining industry and the nation. The only active federal program dealing solely with the development of more efficient and environmentally benign mining technologies is the mining industries of the Future Program, a component of federal agencies are also involved in science, engineering, and technology development that could be useful for the mining sector (National Research Council, 1990 p. 61). USBM in participation of other mining agencies have conducted a study in order to determine the possible reasons for the cause of accidents among miners.

The top most reason involves the employees who did not properly observe the safety work principles established and described in instructions, technological documentation, technical designs, and technical-operational documents. Secondly, working under unprotected roof or hanging wall, which is a violation in the mine act, and lastly, the extensive stay of miners in working machines (Hardygora, 2004 p. 837). Primarily, the main causes of <https://assignbuster.com/dangers-of-mining-safety-in-mining-industry/>

accidents are not partially with the mining industries, but according to the studies of USBM as of 2003, majority of the rationales of accidents are due to the miners themselves. Safety measures and safety enhancements account as the highest priority, but without the right cooperation of the miners, the developments are still in vain.