

Investigate and Analyze the Implementation Status of Employee Safety and Health Policies in the Mining Industry

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Abstract: Mine development is a high-risk industry, whose safety and health issues should be highly valued. This study is conducted in a medium-sized mining enterprise group in Hebei Province. Select 40 employees of mining enterprises by cluster stratified random sampling as the subjects, designed the questionnaire (Jex S M, Beehr T A, Roberts C K, 1992), and released and collected through the questionnaire star. Investigate and analyze the company's safety and health policies (Kahn R L, Byosiere P, 1992). Analyzing whether the implementation of health and safety policies significantly reduces work-related accidents, and significantly reduces work-related stress and illness. Can work-related violence and conflict be significantly reduced.

Keywords: Mine Employee safety and health; Policy assessment; Research analysis

1. Introduction

1.1 The meaning of Policy Review

Policy review refers to the relevant policies, decision-making procedures, activities, various situations and problems implemented by companies, enterprises, organizations or groups, as well as public feedback on related issues, for systematic investigation and analysis (Selye H. Stress, 1978).

1.2 Hebei Province, a medium-sized mining enterprise group introduction

The mining company, founded in 1958, has a total gold production of 33.18 tons, achieving profits and taxes of 320 million yuan, making an outstanding contribution to China's gold industry (Lazarus R S, Folkman S, 1984). In the process of development, the company emphasizes taking the scientific outlook on development as the guidance, and attaches great importance to the safety and health of employees (Pekrun R, Frese M, 1992). It has been pursuing "safety first", and taking "zero accident, zero job injury, zero occupational disease" as the goal of the enterprise. Under the high attention of the enterprise leadership, the work safety production accident rate of enterprises is declining year by year.

2. Status quo of the health and safety policy system of a medium-sized mining enterprise group in Hebei Province

From the perspective of occupational safety and health management system, it belongs to an important part of the whole enterprise management system. The main contents include: Review and maintain the relevant rules' development, implementation, organization, planning, activities, responsibilities, systems, procedures, processes, and resources related to occupational safety and health. For example: safety management system of workplace and production and operation; management system of occupational hazard detection and evaluation; safety production education and training system; Workplace conflict management system; injury identification management system; hazard identification and risk assessment control procedures; Organize emergency preparation and response control procedures; occupational health and safety performance management system; employee assessment, reward and welfare system.

The mining enterprise group in Hebei Province, in the daily specific operation process, has the necessary work of work safety production education, work safety training, work safety production inspection and other related work. In terms of production safety accident management, relatively perfect systems and rules have been formulated to restrain the activities of employees, and try to reduce

the hidden dangers of production safety. And through a series of work such as education and training, let the vast majority of miners understand the relevant production safety policies and regulations, master the safety production responsibility and safety technical operation procedures, to avoid the occurrence of all kinds of accidents. In terms of the physical and mental health of employees, the corresponding organizations are also arranged to conduct relevant education, training and guidance.

3. Theory and method of policy investigation on the health and safety of company employees

3.1 Study hypotheses

Prior to the survey, the following three assumptions are made:

Ho1: Health and Safety policy implementation can significantly reduce work-related accidents.

Ho2: Health and Safety policy implementation can significantly reduce work-related stress and sickness

Ho3: Health and Safety policy implementation can significantly reduce work-related violence and conflict.

3.2 Questionnaire survey method

Through the understanding of the health and safety policies of the mining company, combined with the actual survey needs, the corresponding questionnaire was formulated, through the questionnaire star release, the survey of the mining company staff, and 40 valid questionnaires were finally recovered (Warr P B, 1987).

4. Data and analysis obtained by a questionnaire survey

4.1 The Employee Assessment of the Health and Safety Policy Format questionnaire

Table 1 Employee assessment of the Health and Safety policy format

Policy Format	mean	SD
1. The policy document title is succinct and easily understood by most potential users	4.6	0.44
2. The policy is aligned with the stated purpose and scope of the policy document	4.4	0.44
3. The policy is consistent with (or at least not inconsistent with)	4	0.6
4. The policy does not conflict with or duplicate other company policy documents	3.8	0.636
5. The policy is comprehensive, incorporating all aspects of a general topic, rather than segregated into multiple policy documents	4	0.6
6. Definition of terms Included are appropriate and complete	3.6	0.84
7. The policy is written in plain unambiguous everyday English, without the use of jargon, or unexplained technical or legal terms, acronyms or abbreviations	3.6	1.88
8. Roles and responsibilities for the policy implementation, monitoring and evaluation are clearly defined	4	1
TOTAL	4	0.8045

Provide the discussion for Table 1.

Table 1 is quantitative analysis, and relevant conclusions can be obtained: by calculating the mean and SD values, the employees' satisfaction with the health and safety policy format is revealed. The higher the mean score, the more satisfied the employee is, and the SD value is less than 1, represents a small gap in employee satisfaction. The mean scores in Table 1 are generally high, indicating high employee satisfaction, except for the last two items, the SD value is less than 1, indicating that the gap in employee satisfaction is not large.

4.2 Analysis of the questionnaire of the Implementation of the Health and Safety Policy Contents

Table 2

Policy Content	mean	SD
1.Risk assessments are cociducted on the health and safety of organi zational members.	4	0.6
2.Significant findings of the risk assessment are being recorded and communicated to the members of the organization	4.5	0.45
3.Health and safety measures are implemented	4.2	0.56
4.There is an aligned competent individual/s for the health and safety responsibilities	3.5	1.25
5.There are emergency procedures	3.6	1.06
6.There are First Aid facilities	3.8	1.16
7.There is sufficient ventilaiton,lighting and sanlitary facilities	4.4	0.64
8.Work equipment is suitable for its intended use far as health and safety is concerned and that It is properly maintained	3.6	1.24
9.There are oicleqiljate control measures to prevent exposures to substances that may damage health	3.5	1.65
10.There are adequate measures ag^in^t danger from flammable or explosive hazards,electrical equipments noise or radiation.	4.5	0.45
11.There are measures to avoid hazardous manual handling operations and8 where they cannot be avoided,rieclijce the risk of Injury,	3.5	1.05
12.There is provision of free protective clothlinig or equipment^where risks are not adequately controlled by other means	3.9	1.09
13-Appropriatje Snafety sjgnsn are provided and maintained	4.4	0.44
14-There is proper reporting of certain Injuries^diseases*ndl dLangerous occurrences to the appropriate health and safety enforcmg authority.	4	0.4
IS.Th-ere are provisions for<^rgdnizaitonat proper conduct and decorum.	4	0.6
TOTAL	3.96	0.84

Through the survey in Table 2,the following conclusions are drawn:In general,employee satisfaction with the implementation of health and safety policies is high,and the gap in employee satisfaction is different.Specifically:questions 1,2,3,7,10,13,14,15.Employees have high satisfaction,and the satisfaction gap is small.While 4,5,6,8,9,11,12,the employee satisfaction is high,but the satisfaction gap between the employees is large (Cox T, 1993) .

4.3 Through the analysis of the Company's Health and Safety Policy Status quo,to understand the current health and safety status of the company's employees

Table 3

Status of Company's Health and Safety Policy		
Status	Mean	SD
1.Work-related accidents(i.e.,physical injury,dismemberment disability or death)	3.6	0.41
2.Work-related stress and sickness(i.e.,due to exposure to bacteria,viruses,chemical substances,poor working conditions,etc.)	2.8	0.43
3.Workplace violence and conflict(i.e.,bullying,sexual harassment,interpersonal conflict)	1.2	1.07
TOTAL	2.533	0.636

Table 3 shows through the survey data that employees are not very satisfied with the status quo of the company's health and safety policies, industrial accidents (i.e., physical injury, mutilation, disability, or death), and work-related stress and illness (That is, due to exposure to bacteria, viruses, chemicals, poor working conditions, etc.) both satisfaction is low, and the gap in employee satisfaction is small. It shows that the employees' views are more consistent. The satisfaction degree of workplace violence and conflict (i.e., bullying, sexual harassment, and interpersonal conflict) was relatively high, but the satisfaction gap among employees was relatively large, indicating inconsistent awareness.

4.4 Through a thematic analysis of the recommendations for the improvement of policy purposes and outcomes, to understand what the issues of policy implementation are observed by organizational members

Table 4

Thematic analysis on Suggested Improvements on the Policy Purpose and Outcomes

Themes	Statement	Key Informant
Some of the documents are out of the actual situation	The company's relevant policies do not reflect the actual situation of the current employees, and cannot solve the practical problems.	key Informant#1 key Informant#2
Policy enforcement is not enough	The policy was formulated in very detail, but the subordinate departments did not strictly follow the implementation, just posted the policy, to deal with the inspection.	key Informant#7 key Informant#9 key Informant#12
The frontier of the policy is not strong	Policies should be made with a long-term strategic goal and should not be changed frequently.	key Informant#3 key Informant#5 key Informant#10

As can be seen from Table 4, some of the company does not take the actual situation into account when formulating policies, the policies are not targeted, and some policies are not implemented in place, which cannot produce due effects. Regular adjustments and changes of policies will make employees feel at a loss what to do.

4.5 Through a thematic analysis of the new information that should be included in the policies, get an understanding of what new information sets should be included in the policies

Discussion on Table 5

Table 5

Thematic Analysis on new sets of Information that Should be Included in the Policy

Themes	Statement	Key Informant
Theme 1 safety	Interval period should be stipulated for safety education and training for employees, and equipment update should be trained in time to work with certificates	key Informant#4
Theme 2 healthy	Employees received by the physical injury, should buy the corresponding commercial insurance, in order to protect the health of the employee problems, the corresponding compensation.	key Informant#6
Theme 3 welfare	For special types of work, we should organize regular physical examination for employees, and give economic subsidies for irreversible injuries.	key Informant#8

From Table 5, it can be seen that employees attach great importance to safety, health and welfare. It is hoped that the company can provide regular education and training on safety and health to reduce unnecessary industrial accidents. If the worker suffers physical injury, should buy corresponding commercial insurance, to protect the health problem of the worker, give corresponding compensation. To special type of work, should organize worker physical examination regularly, give economic subsidy to irreversible injury.

5. Problems existing in the current health and safety policies of mining companies

According to the questionnaire survey and analysis, the main problems of the company are as follows:

The appropriate and complete aspects of the definition of policy terminology need to be improved, including improving the daily language and professional terminology, clarifying the responsibilities and responsibilities of political intervention, monitoring and assessment.

Improvement needs in having a competent health and safety responsibility, having emergency procedures, having first aid facilities, working equipment suitable for their intended use.

Employee satisfaction with both aspects of work-related accidents and work-related stress and illness was low.

The policies formulated by the company are not highly targeted, and some policies have not been implemented in place, which cannot produce due results. Regular adjustments and changes of the policies will make employees feel at a loss what to do.

Education and training in safety and health areas need to be strengthened.

Staff safety operation training, salary and promotion, but also need to be further improved. However, the policy satisfaction of employees on work-related injury, reporting of industrial injury insurance and paid industrial injury, holiday rewards, annual leave and paid leave is not high.

6. Suggestions and summary of the current health and safety policies of mining companies

Through the questionnaire survey on the safety and health situation of the employees, and through the data collection and analysis of the survey sample, the following suggestions are put forward:

Ask staff opinions to revise the relevant terms, daily terms and professional terms of policy making.

The introduction of advanced management system, the introduction of advanced facilities and equipment, special dangerous work to adopt automatic, mechanized operation, can better reduce the accident rate.

Subsidies should be increased for occupational injury and diseases.

Strengthen the training and assessment of employees, strengthen the ideological education of employees, improve their self-cultivation.

We will strengthen the pertinence, execution and continuity of our policies.

Improve the performance of staff appraisal and reward formulation, improve the benefits of employees.

The following conclusions are drawn from the survey:

First, The implementation of health and safety policies can significantly reduce work-related accidents. Of course, there is still room for improvement in this aspect, such as the introduction of advanced management system, introducing advanced facilities and equipment, special dangerous work to adopt automatic and mechanized operations, can better reduce the accident rate.

Second, Implementing health and safety policies can significantly reduce work-related stress and illness, and attention should be paid to illness for occupation, and subsidies should be increased.

Third, The implementation of health and safety policies can significantly reduce work-related violence and conflict, and can further increase training and education in this area to improve staff self-cultivation.

7. Limitations and future directions of this study

Due to the many variables involved in employee health and safety problems, it is difficult to measure and discuss them in this study.

The scope of this study is a large state-owned enterprise group located in Hebei Province. While adjusting the employees of the enterprise accordingly, The findings may also reflect some regional cultural background of the region (Cox T, 1993). Moreover, since this study was only implemented in one enterprise, where the same sample was tested with different scales, there may be a methodological effect. In order to enhance the universality and ecological validity of the research conclusions and improve the ecological validity of the research, it is necessary to combine further research with the measurement results in other regions and occupational groups to test the generalization of the research conclusions.

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