

## **Innovation of Guidelines in the safety management of operational employee of Dr.Glam Co., Ltd.**

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### **Abstract**

This research aims to study the conditions, problems, and limitations on safety behavior in working concerning personnel, operational behavior, equipment, and working environment and to find guidelines for safety management, and accidents caused by the work of employees in the production department of Dr. Glam Co., Ltd. This is qualitative research using in-depth interviews. The sample used in the study was 25 people working in the production department of Dr. Glam, including those with more than 3 years of work experience, and 5 experts with more than 10 years of safety management experience. The results of the study indicate that conditions of problems and limitations on safety behavior at work are as follows: 1) the recruitment of personnel must include a qualification in engineering or related to the machinery in the industry. If there is no engineering knowledge, at least basic computer understanding must be included and without any criminal record 2) there is continuous assessment and work follow-up and the operation is always randomly checked to ensure that the operation meets the standards 3) limitation on working equipment of consumable protection devices, and there is a continuous inspection of equipment and machinery 4) In the preparation of the environment, for guidelines in managing safety and accidents from work, it was found that 1) The company has prepared the safety of the machines in use 2) Evaluation of employee performance in the production department should be conducted through operational tests 3) A room for storing equipment and for wearing a uniform and protective gear before operation should be provided. 4) Training to educate or inform safety policy in the company including the use and prevention from factors that may cause accidents in the workplace

**Keywords:** Safety, Accident, Operation

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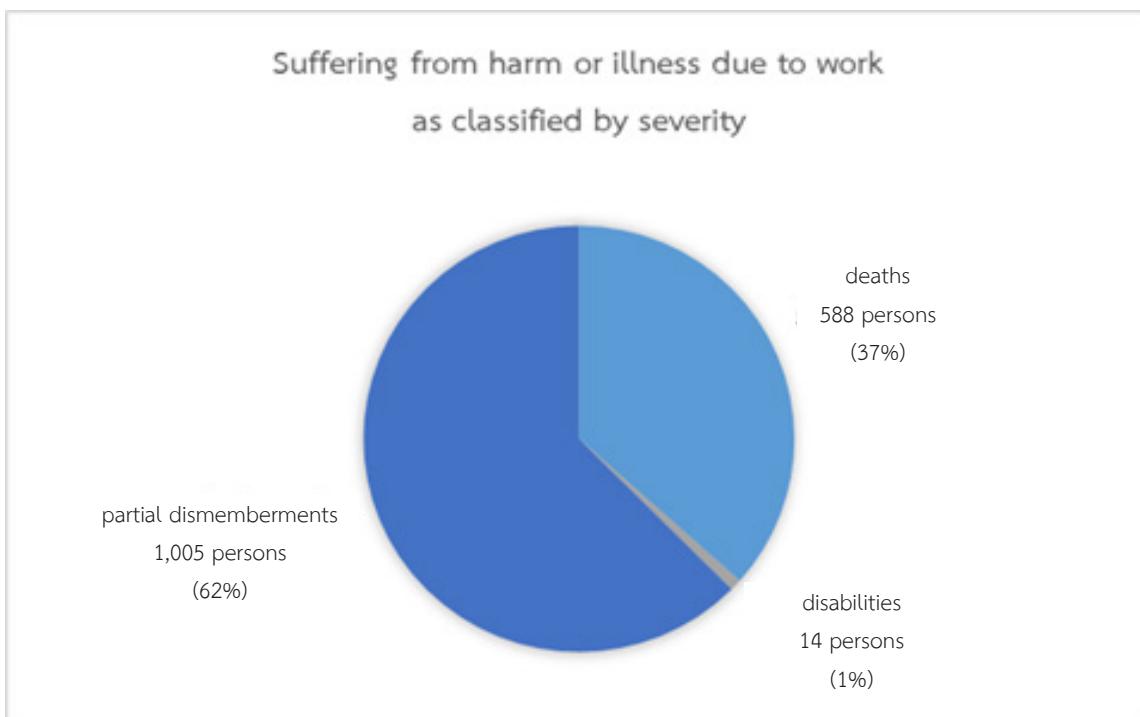
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## Introduction

The industry in Thailand has a lot of technological development and progress with the industrial potential being ranked 35<sup>th</sup> in the world out of 64 countries and ranked as 2<sup>nd</sup> in ASEAN countries. However, since there is a leaping development of neighboring countries resulting in the industrial sector of Thailand encountering the risk of being overtaken, which will affect the level of production capabilities, investment, and economic growth (Kusalin Jaruchat: 2021) Therefore, Thailand must develop its industrial sector to maintain its potential and production capability. And it can't be refused that an important factor that helps in the production of the industrial sector is the adoption of modern

machinery and technology to meet the needs of the production process and to obtain productivity timely as required by the customer. As such, machinery plays a role in the production process of the industrial sector in Thailand and the consequences following the use of machines in the industrial sector are dangers and accidents at work.

According to the National Statistical Office data that reported the number of injuries or illnesses due to work as classified by severity (In the extent of the Compensation Fund), it was found that in 2020 alone, there were 588 working-related deaths, 14 disabilities, 1,005 partial dismemberment (National Statistical Office: online).



**Figure 1.** Statistics of Occupational Harm or Sickness classified by severity

As for the cause of accidents at work, this may be due to 1) unsafe working conditions such as poor quality of tools, machines, work equipment, working environments having the disorganized placement of items, dirty areas, etc. 2) unsafe practices which is the main cause leading to accidents such as not wearing protective equipment, omitting safety warnings or instructions, improper use of tools or equipment or using damaged machinery, etc. ( n.d. : 2020) The Office of Compensation Fund, Social Security Office, and the Ministry of

Labor have summarized the causes for employees to suffer from harm or illness at work in the year 2020 as follows; the first cause was 20,749 cases of being cut/poked by objects, followed by 14,003 cases of object or item falls, 11,517 cases of an object striking/smashing and 9,627 cases of objects or chemicals splashing into eyes and 7,060 cases of being squeezed or pulled by objects or items (Office of the Compensation Fund, Social Security Office, Ministry of Labor: 2021)

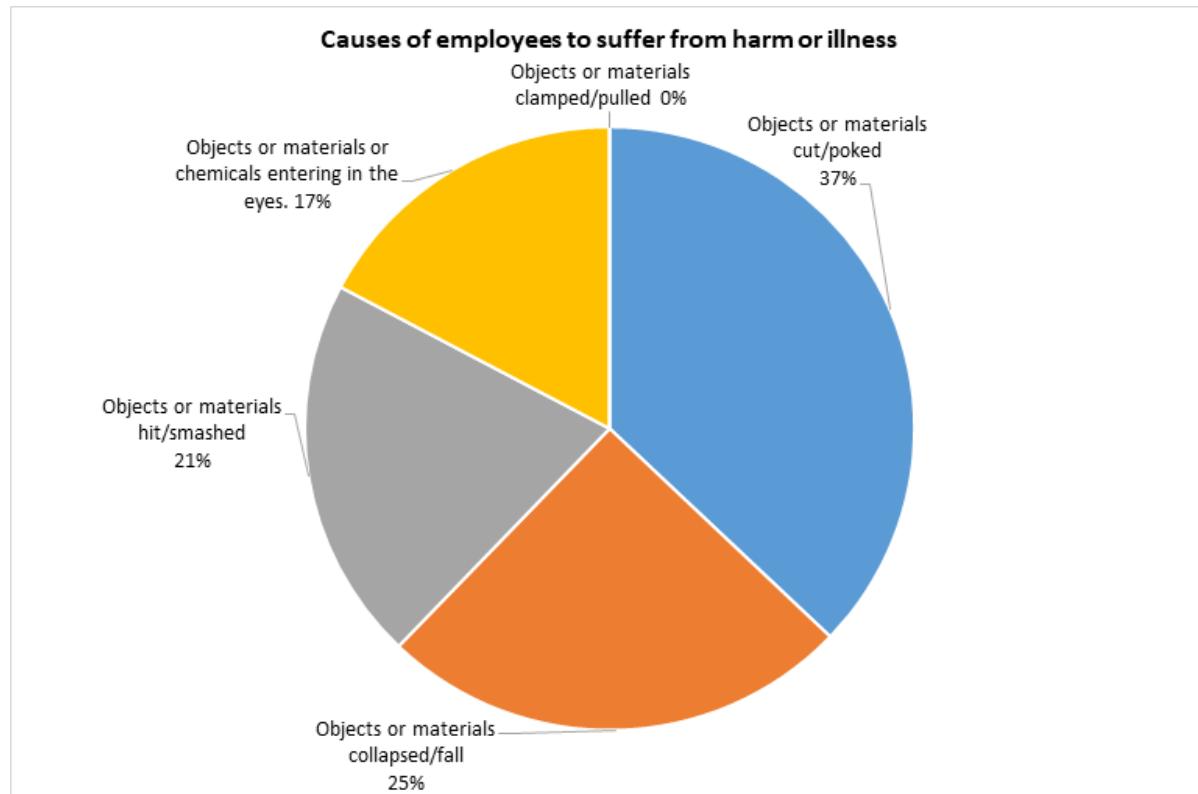


Figure 2. Causes of injury from harm or illness of employees

However, any harm or illness due to such work results in each organization losing their employee or staff and may affect the operation of the organization. Therefore, employers should pay attention to the safety at work of their employees or staff in the workplace to prevent loss of life or being in danger at work. This is according to the Occupational Safety, Health and Environment Act, B.E. 2554, Section 6, which states that "Employers are obliged to arrange and supervise workplaces and employees to have safe and secure working conditions and environment hygiene including promoting and supporting the work of the employees to prevent employee from being in danger to life, body, mind, and health... and employees are obliged to cooperate with the employer in implementing and promoting occupational safety, health and working environment for the safety of employees and the workplace" (Occupational Safety, Health and Environment Act B.E. 2554: 2011)

Dr. Glam Company Limited is a company that produces several products such as beauty equipment and dust masks supplied for various brands, and the company has safety management measures by requir-

ing employees in each department to follow the rules in preventing accidents by forcing workers to wear thick gloves to avoid fingers from machine cutting or causing injuries, a hair cap to protect the hair from sucking into the machine, safety shoes to prevent heavy objects falling on the feet, etc. However, according to the statistics of accidents at work of Dr. Glam Company Limited, it was found that from 2013 to the present, there was an accident at work 15 cases of production workers. And the main cause was the use of machinery in the production, such as being struck by a machine pulling the hand stuck into it causing a finger broken and ragged. While pulling the worn clothing of workers onto the machine leads to loss and injury at work. And failure to comply with safety procedures and improper working habits are also the main cause while there are expenses incurred both directly and indirectly from the incident as well. In addition, it was found that occupational accidents tend to increase steadily. Therefore, the researcher is interested in studying the safety management guidelines at work of employees in the production department of Dr. Glam Co., Ltd. to investigate working behavior and apply as a guideline for the development and management

of safety, to apply the results of this study with other companies and agencies.

## Objectives

1. To study the existing situation of problems and limitations on the behavior of safety in the workplace of employees in the production department of Dr. Glam Co., Ltd. concerning personnel, working behavior, equipment used in the workplace, and the working environment
2. To study for finding guidelines for safety management, accidents caused by the work of employees in the production department, Dr. Glam Co., Ltd.

## Research Methodology

This research is qualitative research and the results of the study are discussed in group discussions. The population used in the study was 25 people working in the production department of Dr. Glam, including those who have worked over 3 years in the production department and 5 experts with over 10 years of experience in safety management.

Tools used in the research included an in-depth interview to study theories and concepts of safety management including behaviors in working safety to define questions that are consistent with the objectives of the study and used as a directive in-depth interview.

Data collecting was implemented using in-depth interviews on the safety management guidelines of Dr. Glam Company Limited with 25 employees who had over 3 years of experience and 5 safety management experts who had over 10 years of experience. The results of the study were used as questions in a group discussion with 5 informants on specific problems, namely company executives of Dr. Glam, production managers, the head of Production, and representatives of 2 production officers.

Data analysis: the researcher used study results to analyze for key issues to investigate the problems of safety management guidelines of production employees of Dr. Glam Co., Ltd. and the behavior of safety at work of the production employees. The researcher will bring the results of the in-depth interview to empirically

describe to obtain research data that is in accordance with the qualitative research process. And the researcher will apply the study results for developing safety management in the production department to be safer in the workplace and allow other agencies in applying the results for the benefit of their organizations.

## Results

**Part 1** The study results of existing problems and limitations on safety behavior in the workplace of the production operational staff in Dr. Glam Co., Ltd.

1.1 Personnel; the result showed that, in the recruitment of operators to work in the production department, applicants must have a qualification in engineering or a related field to the operation of industrial machinery. In case the applicant has no engineering knowledge, at least basic computer comprehension is required and the applicant must be over 18 years of age. The company also considers criminal records and if the applicant is found to have any criminal case such as physical assault, use or trade in drugs, or attempting to kill or injure other people to death, the company will not consider accepting to join the work since there are no measures to treat or prevent potential causes of such violent behavior and emotions in the company. While the applicant's financial liquidity is also considered even though it may not indicate the sign of behavior of embezzlement or theft but poor financial conditions can pressure a person to cause such behaviors.

1.2 Working behavior; the result showed that Dr. Glam Co., Ltd. has continuously assessed and monitored the work and randomly and always checked the work to ensure that the operation is in accordance with the standards. In addition, the management or executives schedule to inspect the operation of production 2-3 times a month by randomly checking and reporting in-depth problems of each party including collecting data of the operation and errors that occur with the production staff both manual and machinery errors, so as to collect data as reference and to maintain the tools easily. In addition, a notice of violation will be issued for employees violating company rules. If a notice is issued more than 3 times, violating employees will be called

to discuss error correction. And if there is no correction taken or if the 4<sup>th</sup> notice is issued, violating employees will be discharged without any condition whatsoever. Or in case of an accident resulting in serious injury or death, the company will coordinate with the police to take legal action, and in the event of product damage occurs, employees and supervisors must indemnify against the damage which has a clear rule, and employees are informed about such rule prior working.

1.3 Working equipment; the result showed that there were limitations regarding consumable protective equipment such as surgical masks, rubber gloves, hair caps, etc. In addition, equipment and machinery were continuously inspected to reduce the risk of accidents. For cleaning within the production department, there were dedicated maids responsible for cleaning regularly.

1.4 Working environment; the result indicated that before entering the workplace, there will be a preparation of the environment such as air ventilation, maintaining cleanliness by cleaning the machine every time before turning it on and shutting down, including placing stuff in the right place and well organized to prevent accidents that may occur.

**Part 2** Study results on finding guidelines for the safety management and accidents at work of employees in the production department, Dr. Glam Co., Ltd.

2.1 The management of accident from work; the result showed that the company has prepared for the safety of machines in use. The production head and technicians and supervisors always inspect each machine, such as fabric cutting machines, etc. for readiness before the operation. In addition, every day before the end of work, production workers prepare a report of operation including errors that may be caused by themselves or by the operation of machines. And when there is an abnormality of the machine occurs, it will be notified to supervisors immediately to inform the technician department for check-up and repair as well as preparation for the next day's operation. If the machine has a critical problem there will be a plan to rotate that employee to work for other machines. For the maintenance, the company signs a contract with a

manufacturer for after-sales service. And the machine must be checked every year at least once a year including interior part cleaning as well.

2.2 Management of employee operation; it showed that the company regularly checks the operation of its employees. However, there is still lack of continuous monitoring and assessment and the operation of employees in the production department should be evaluated through operational tests so as to alert employees and gain more efficiency of work eventually.

2.3 Prevention Management; it showed that before working, there should be a room for employees for changing their clothes or wearing protective equipment and storing belongings in their locker cabinet, in order to work efficiently and prevent harms.

2.4 Training or informing the company's policy to prevent hazards or accidents for new employees; it was found that the company educates or informs about company safety policies including the application and prevention of factors that may cause accidents in the workplace such as machinery, vehicles, etc., which should be notified to new employees and existing employees clearly and with a continuous reminder to make employees vigilant in their operations and to reduce accidents and hazards in the company's location. In addition, there should be attention to promoting education on workplace safety which may be done by sending employee representatives to attend training on new knowledge or safety standards continuously and share to other employees within the company to apply as guidelines for building a safety culture in the workplace

## Discussion

1. The study of the existing situation of problems and limitations on safety behaviors in the workplace of employees in the production department of Dr. Glam Co., Ltd. can be discussed for the results as follows:

1.1 Personnel; it was found that the recruitment of personnel in the production department of Dr. Glam Company Limited has quite clear and standard criteria for recruiting personnel requiring knowledge and under-

standing of machine system operation or basic computer knowledge since working in production involves operating different types of various machines. Therefore, employees must have knowledge and understanding of machines to ensure safety at work. In addition, the criminal record is also considered and if criminal records such as drug cases, physical assault, etc., are found, they will not be accepted to join the company since Dr. Glam Company does not have measures to prevent potential incidents caused by violent behavior and emotions. This is consistent with the results of the qualitative study that the company has requirements for the applicants to have work experience in the production and machinery for at least 1 year since the company's machinery is a general machine having a system similar to other machines. And this will result in familiarity with the work faster and help reduce errors. And mostly, if applicants are found to have a criminal record, they will not be accepted since the company is quite strict on this matter as it negatively affects the company in every way. It is also consistent with the concept of Sarun Sirisuk (1997:25) that, to prevent accidents from work; step 1; organizing the organization, and the first reason leading to organizing the organization is "safety engineering", that is; organizing the organization will not be successful at all if using the method of recruiting workers without criteria and contemplation or by a decision from another person. Planning and organization are extremely important in the manufacturing industry.

1.2 Working behaviors; it showed that the operation in the production department was continuously monitored and randomly inspected so as to meet the standards as well as allowing employees to record their work and errors that occur while operating both of their own and the machine. This is consistent with the results of a qualitative study that the management has a monthly schedule to monitor the work of the production dept. once every 2 or 3 months which is a random check. If there is any problem in any area is reported, an in-depth examination will be conducted. And it is in line with the concept of Sarun Sirisuk (1997:25) about the method of preventing accidents from work; step 3 in the investigation of the cause of the accident, it will be

analyzed from the facts gathered and such information must always be reviewed. This analysis also includes investigating the problem solving when there are errors and obstacles in work, especially when workers are still trying to work at risk or the risk of working with machines. In addition, Dr. Glam Company has defined rules by notifying employees in advance about violating the rules of the company. If a violation is found, a notice will be issued. This includes the act of causing an accident leading to serious and fatal injuries, the company will then take legal action without protecting its employees so as to maintain the company's reputation since the company needs to establish standards and guidelines for working in a concrete manner. This is consistent with the concept of Witoon Simachokedee and Weerapong Chalermjirarat (2004: 38) who discussed the 3E principle on issuing regulations (Enforcement) which refers to the determination of methods and procedures for safe operation and control measures forcing employees to comply. It is a practice that must be announced thoroughly to the general public, if anyone violates or fails to comply, he will be punished to make consciousness and avoid improper or dangerous work.

1.3 Working Equipment; it was found that Dr. Glam Company prepares safety equipment such as rubber gloves, hair caps, and face masks, 2 sets per day for production staff. Equipment and machinery usage is continuously monitored while having a maid staff clean the production department area regularly since the production department is closer to high-risk machines and equipment. Therefore, the company has measures in entering the production department area having rules forcing staff to wear thick gloves to prevent the machine from cutting fingers or causing injuries, hair caps to prevent hair sucking into the machines, etc. This is consistent with the results of a qualitative study that the equipment availability of production staff will be checked before working. If the said equipment is damaged the head of production must replace the new one immediately since the working equipment is a safety device. It is also consistent with the concept of Wichitra Wichianchom (2002: 189) that safety at work means actions or working conditions that are safe from the event

that will cause injury, work-related illnesses to workers, or trouble due to work or operation

1.4 Working environment ; it showed that before work, the working environment of the production staff was prepared such as by cleaning the machine every time before turning it on and shutting down, keeping things organized to prevent accidents, checking ventilation conditions to avoid damage to the machine and to control the air volume accordingly. This is in line with the concept of Witoon Simachokedee and Weerapong Chalermjirarat (2004: 38) who discussed the 3E principles in engineering which refer to the use of academic knowledge in engineering in the calculation and design of machinery, equipment, and tools with the safest working conditions such as factory layout, electrical system, lighting system, installing a safety device on the moving parts of the machines, ventilation system, etc. It is also consistent with the research results of Thanattha Kornphithak (2001: Abstract) that environmental factors associated with accidents in the metal stamping plant with a statistically significant level of 0.05 include personal protective equipment and noise.

**2. The study in finding guidelines for safety management and accidents caused by the work of employees in the production department of Dr. Glam Company Limited can be discussed for the results as follows:**

2.1 Management of accidents at work; the study indicates that Dr. Glam Co., Ltd. has prepared machine safety by assigning the production head to inspect the machines for readiness with technicians and supervisors including writing reports of operations and errors caused by themselves or by machine operation. In case of a machine malfunction, it will be informed to the supervisor promptly so as to inform the technician department for checkup and repair. For machine maintenance, the company signs a contract with the manufacturer for after-sales service by inspecting the machines every year at least once a year. This is consistent with the results of a qualitative study that machines are inspected both before and after work every day. Checking is conducted for changes of the computer system, the machine, damaged parts that or parts that may cause problems,

to reduce problems that can cause accidents from machines and fatality. It is also consistent with the concept of Vachirawit Mathurossuwan (2001: Introduction) that there are many forms of accident control or prevention in the workplace. It depends on the nature and type of business of the establishment. However, safety inspection in the workplace can be divided into 9 types, as follows: 1) Unplanned safety inspection, 2) General security inspection, 3) Safety inspections in 5 S. activities, 4) Safety inspection of machinery and equipment, 5) Safety inspection by executives, 6) Safety check before the operation, 7) Safety inspection for the office, 8) General environmental safety inspections, and 9) Safety of equipment inspection.

2.2 Employee operation management ; the results showed that Dr. Glam Co., Ltd. has checked the employees' performance by evaluation the performance of employees in the production department through the performance test so as result in employee operation to be alert and more efficient at work. This is consistent with the results of the qualitative study that the management will have a monthly schedule to inspect the operation of production once every 2 or 3 months which is randomly checked. If any problem at any area is reported, an in-depth examination will be conducted. In addition, supervisors and technicians will inspect the site throughout the day to look after the continuity of operation of employees and machines.

2.3 Prevention Management; the results showed that preparing rooms for staff to change clothes or wear protective gear, and storing equipment in their locker cabinets result in the work more efficient and do not cause any harm, reducing the risks in the practices of production staff that may cause accidents, such as using mobile phones while the machine is working, not wearing protective equipment at work, etc. This is consistent with the research of Anothai Wiriya (2008: Abstract) which indicated that; 1. Wearing personal protective equipment was statistically correlated with worker safety behavior at the level of 0.05 2. Gender, work department, employment status, safety training experience, and experience in facing an accident at work have no statistically significant correlation with safety behav-

ior at work. 3. Age and recognition of the benefits and obstacles in preventing accidents were related to safety behavior at work at a statistical significance level at 0.05

2.4 Training or informing the company's policy to prevent hazards or accidents for new employees, educating or informing about company safety policies including the application and prevention of factors that may cause accidents in the workplace such as machinery, vehicles, etc., in order to be careful in the operation and to reduce accidents and dangers in the company's area. In addition, there should be attention to promoting education on workplace safety by sending employee representatives to attend training on new knowledge or safety standards continuously and share to other employees within the company to apply as guidelines for building a safety culture in the workplace. This is in line with the concept of Witoon Simachokedee and Weerapong Chalermjirarat (2004: 38) who discussed the 3E principles in education which refers to educating or training and giving advice to operators or those involved in the operation to have knowledge and understanding about accident prevention and to strengthen the attitude of safety at work allowing the operators to know how accidents can happen and can be prevented and how to work as safe as possible. It is also consistent with the research results of Manat Khirirak (2003: Abstract) which indicated that safety training and operational opinions were correlated with work accidents.

## New Knowledge

According to the study results on guidelines for the management of safety at work for employees of the production department of Dr. Glam Co., Ltd., guidelines for the management of safety at work are obtained as follows:

1. Arrangement of a performance appraisal system in order to follow up and evaluate the performance to meet the same standards with continuity in the performance appraisal and employees can verify the performance appraisal, checking or notifying the status of warning notice manually through the system.

2. Planning for organizing training projects or activities to raise awareness of safety, developing skills

in safety management at work for supervisors and production staff, or allowing employees to attend training courses on safety in using tools and machinery in the factory, etc.

3. Follow-up and evaluation on the preparation of safety standards in the work of employees and bring the results to review and improve continuously.

## Recommendations

According to the research results, the researcher has the following suggestions:

**Policy recommendations** (for use, who, what agency, and how)

1. According to a regular and continuous inspection of employees' operations, the company should increase employee performance assessments through performance testing to make employees alert and efficient at work.

2. The company should provide rooms for employees for changing clothes or wearing protective gear including storing equipment that is a risk factor in causing accidents at work, such as mobile phones so that employees work efficiently and reduce the risk factors for accidents

3. In addition to training for new employees, coaching, and annual training, the company should provide additional training on risk management at work, basic prevention measures, and proper working for employees to gain knowledge and understanding and to be careful in working.

**Suggestions for the application of the research results** (for the benefit of who, which agency, and how)

The company or factory can apply research results as a guideline for the management of safety in the operation of production staff. In addition, studies should be conducted on monitoring and evaluating knowledge and understanding of risk management or the performance of employees at all levels and all departments. And the study on the practices of other companies should be conducted to find common standard practices for factories and manufacturers of beauty equipment.

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