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Problems Faced in Using Safety in The Working Environment and How to Overcome Them in Sidewalk Development Projects and Footway Facilities in Kemang South Jakarta

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Abstract

The construction service community implements and emphasizes Work Safety for the good of workers and it is actually not as difficult as imagined, Things that are considered difficult can become not difficult if your work area complies with good and precise safety rules, besides leading with full discipline and by cultivating strong trust among the work team. Efforts to reduce the number of work accidents as small as possible are used in the prevention and handling of work accidents, namely the Behavior Based Safety (BBS) safety program and the Patrol program implemented by the General of Affair and Environmental Health System Operational (GA & EHS). so that it was successful, the aim of this study was to analyze the effectiveness of the BBS program in changing the attitudes of employees related to the use of personal protective equipment in the workplace. The results show that most workers do not understand personal protective equipment and do not care about the punishment agreed upon by the company. Thus, the solution of this study is expected to solve problems and strengthen positive behavior and work safety in the workplace. Occupational Health and Safety Management System (SMK3) is a security protection system for work stress and safety, safety and security loss and safety humans and the surrounding environment which in turn can improve effective and efficient performance. Education on the implementation of SMK3 in Indonesia is regulated in the Minister of Manpower No.01 / MEN / 1980 (K3 building construction), Permenaker No.5 / 1996 (SMK3), Inst. Menaker No.01 / 1992 (K3 Organizational Unit Inspection), Decree of the Director General of PPK No. 20DJPPK / VI / 2004 (K3 Expert).

Keywords: obedience behavior, APD, BBS program.

1. Introduction

Safety and health in a healthy work environment is an asset of high value for individuals in a country and a country that requires a higher quality of life. This can be influenced by the health of a job (Ogden, 1996).

The use of PPE in the work environment is calculated with the potential hazards of accidents that can be experienced. The types of APD have an effect on a work accident. There are several incidents that state that industrial workers who have APD have experienced a work accident of 2.20 times compared to those who do not use APD (Riyadina, 2007).

It is hoped that the regulations that have been approved by the company can be obeyed by workers to minimize the risk of work accidents. Workers who are stubborn and don't want to use PPE can experience accidents at work or work-related diseases such as chaos, damage, complaints, disabilities and death (Arifin, et al. 2013).

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Suizer Theory (1999) states that work accidents can be overcome by paying attention to workers' attitudes. This is also confirmed by Cooper (2009). According to Cooper (2001) states that 80-95% of all work accidents are caused by unsafe behavior so that it is difficult to control properly.

According to the opinion of Cooper (2009) in relation to the results of a National Safety Council study in 2011, it was stated that 88% of work accidents were caused by unsafe behavior. Then, 10% of work accidents are caused by unsafe conditions and 2% have no known cause. In addition, DuPont Company (2005) argues that most workers' accidents occur due to unsafe behavior, which is 96%. In addition, 4% of accidents among workers are caused by unsafe conditions.

Reported by the International Labor Organization (ILO) news source in 2013, 1,200,000 fatalities were caused by accidents and illnesses while working. Data on work accidents at BPJS for employment to health promotion, namely efforts to be independent, empower, and enable people to reach a good level of health, for themselves and for environmental health (Ottawa Charter, 1986). The process of community empowerment does not only provide information such as extension services, communication and education, but also involves various matters and support in the community.

According to Lawrence Green (1984), health promotion is an amalgamation of the health sector and the involvement of health in the political, economic and organizational spheres. This aims to create a comfortable and healthy environment. Law number 1 of 1970 regarding work safety, states that the work location is all spaces and work angles can cause potential work hazards. This can be found in article 2 which states that all locations in the workplace are said to be workplaces. To increase worker productivity these efforts are made. However, in practice, one of the behavioral factors becomes a problem of compliance with the policies of the institution or workplace. The existence of health promotion in the workplace can be useful for making workers comply with policies that have been made by agencies. According to WHO in Notoatmodjo (2005), promotes in the workplace is a design related to policies in the workplace to make it easier for employees and companies to improve and improve health. by involving management, work participation and other stakeholders.

Behavior based safety is a function software in work. Focus on unsafe attitudes towards workers, pay attention to workers' attitudes, then carry out programs obtained from the results of research to be able to improve attitudes at work to become more disciplined and better understand their work. Workplaces that carry out the BBS program must look at the attitudes of the workers first. This aims to make the program fit the existing problems. In implementing this program, it requires various requirements such as having to have clear targets in order to change worker behavior. It is hoped that this can improve the behavior of workers who do not meet the criteria and are compatible with the results of everything in the field and so that they can match the existing problems so that the program can run effectively.

2. Literature Review

Strategic Studies

An accident is an event that may be unexpected or expected. It can be assumed that it was unexpected because behind the incident there was no sense of doing this on purpose and did not hope that the accident would occur because it could cause material loss or suffering from the mildest to the most severe (Suma'mur, 1995). A work accident is an unexpected event or a sudden accident that results in bodily injury and property damage. According to Sulaksmono in Santoso (2004) that a work accident is an event that was unthinkable or unexpected from the beginning that disrupts the process

of work activities that have been designed and can result in losses, both casualties and property victims.

The occupational safety and health system are one of the labor norms whose application aims to prevent the possibility of occupational diseases and accidents on the project. Occupational safety and health are a problem that is closely related to various aspects, including economic, legal and social (Syahril Effendy Pasaribu, 2005). The implementation of construction work must meet the standard provisions concerning engineering, occupational safety and health, security, protection of staff and also the arrangement of the surrounding environment in order to guarantee the realization of orderly implementation of construction work. Awareness of the law in the implementation of construction work really needs to be improved, including the compliance of parties in carrying out their obligations and compliance with regulations related to several aspects such as aspects of security, safety and health and the environment (Law No.18 of 1999 on Construction Services).

Occupational Health and Safety (K3)

The aspects faced and expected to result in the risk of construction work accidents in the project environment are as follows, actors from non-technical workers, foremen, artisan staff, managers and managers who are directly involved in construction work. During storage, transfer and use of construction materials. Work both heavy equipment and light construction equipment which are closely related to one another. Construction methods and equipment that will be used. Planning and implementation of construction. The possible causes of accidents in construction work seen from the observation of work accidents above are as follows, in using PPE / personal protective equipment, the workers lack discipline. Lack of socialization in the internal work environment of the need for personal protective equipment to avoid negligence by job leaders. Lack of compliance with SOP / standard operational procedures for the use of construction work support tools. K3 management is not consistently applied nor is the system. Not maximal in the application of K3 experts in the construction sector / K3 experts in construction implementation or less involved. Matters relating to Occupational Safety and Health (K3) have not been complied with.

In principle, every worker must be responsible for the safety and health (K3) of each individual. Is responsible for his own safety and health. Every worker is obliged to contribute in every occupational safety and health activity. The implementation of the K3 management system can guarantee the safety and health of workers and other people in the workplace (Eugenia Liliawati Muljono, 1997). To support occupational safety and health systems in companies, the government has made laws and regulations related to occupational safety and health, including: Law No. 1 of 1970 concerning safety at work. Regulation of the Minister of Manpower of the Republic of Indonesia PER07 / MEN / 1964 concerning occupational health. Regulation of the Minister of Manpower of the Republic of Indonesia No. PER04 / MEN / 1995 regarding occupational safety and health services. Instruction of the Minister of Manpower of the Republic of Indonesia No. INST05 / M / RW / 96 dated 28-10-1996 concerning the supervision and guidance of work safety in construction activities. Regulation of the Minister of Manpower No. 04 / MEN / 1987 concerning the procedures for establishing P2K3 and appointing K3 experts. Regulation of the Minister of Manpower No. PER05 / MEN / 1996 concerning the occupational safety and health management system. Regulation of the Minister of Manpower No. Kep19 / M / BW / 97 dated 26-2-1997 concerning the implementation of an audit of the occupational safety and health management system. Instruction of the Director General of Labor Relations and Labor Protection No. INS.8 / PP / 1980 dated 16-4-1981 regarding the guidelines for implementing company regulations, which also stipulate that death benefits due to

work accidents, work accident benefits, work safety and work protection must be included in company regulations. (Syahril Effendi Pasaribu, 2005).

Occupational Safety and Health Management of Construction Projects

The main objective of risk management is actually to reduce risk, which, among others, is done by revising costs, project schedules, funds and quality, so that uncertainties can be reduced without causing a significant impact on project objectives. Accident prevention and its relation to occupational safety and health issues must lead to and be based on the concept of cause and effect of accidents, namely controlling the causes and reducing the effects of accidents. Based on the principle of accident prevention. So, the basic function of occupational safety and health management is to play an important role in accident control efforts in accordance with a predetermined program. Accidents due to work can be prevented by, the provisions and regulations oblige the conditions of work, design, maintenance and testing and operation of industrial equipment, duties of employers and laborers, training, medical supervision and medical examinations. Official stipulation standard, regarding construction that meets general safety requirements. Supervision of compliance with the provisions and laws that require the use of PPE. Technical research, consisting of the properties and characteristics of items that need attention because of danger, testing of personal protective equipment, research on the prevention of dust and dust, or research on the most appropriate materials and designs for lifting belts and other lifting equipment. Medical research, including research on the physiological and pathological effects of environmental and technological factors as well as physical conditions that can lead to accidents. Analyze the things that cause accidents, namely regarding psychological research. Education related to safety education in technical curricula, trade schools or carpentry courses. Training and practice for workers, especially new workers to understand the dangers of work. Excitement is the use of various extension methods or other approaches to create a safe impact. Insurance is a financial incentive to improve accident prevention, for example in the form of reducing the premium paid by the company for safety measures.

Planning to Prevent Work Accidents

Work accidents can be avoided by paying attention to factors, including the following, Environmental Aspects. A work environment that fulfills the criteria for preventing work accidents, namely, safety requirements, general hygiene, sanitation, air ventilation, lighting and lighting, adjusting the temperature in the workspace, conditions of buildings and workplaces that ensure safety, arrangement of storage of goods, arrangement and installation of machines, use of space and space.

Aspects of machinery and work equipment, machinery and work equipment must be in a good plan with due observance of applicable provisions and according to the position of machines or tools and tools in worker safety. Aspects of work equipment, personal protective equipment, for example, such as work clothes, goggles, gloves, which must be of the right size to create a comfortable use. Human Aspects, preventing accidents, enforcing work discipline, avoiding actions that have the potential to lead to accidents and eliminating physical and mental mismatches in working conditions, taking into account workers' potential limits and skills, eliminating several things that reduce work concentration. Work accidents can also be reduced, avoided or avoided by applying a program known as tri-E or Triple E, namely Engineering, is the first action is to equip all tools and machines with safety guards, for example, buttons to stop the work of tools / machines (cut of switches) and other tools, so that they can be protected by technical means. Education means that it is necessary to provide training to workers who educate employees about the steps in working that are suitable, such as safe

conditions as much as possible. Enforcement (Application), means the act of implementation, which provides assurance that accident control provisions are worked out.

Prevention

Preventing accidents is both a science and an art, because it involves personal attitudes, technical elements, and also the environment. Effort is the main thing in any workplace that can reduce losses to workers and industry. The events / triggers for work accidents in question are a domino aspect, one of which is, weakness in management oversight or lack of control management. This supervision can be concluded as a function of leadership or executive coordination as well as management supervision and management activeness to ensure the success of the K3 scheme. An executor or leader not only understands operational tasks, but must be able to understand accident prevention programs, understand work standards and achieve a standard, fostering, controlling, and evaluating their subordinates.

Basic Cause, the basis for allowing accidents in the world of work can take place, management policies and regulations. The human aspect; lack of knowledge, skills or experience, lack of motivation, physical and mental problems. Factors that include environment / work such as; lack of working standards, lack of maintenance, and use of tools or materials that are too excessive. Because what is called a symptom or symptom. This matter is closely related to the existence of safe actions and unsafe conditions.

This communication can use several communication media and information, for example, such as telephones, banners, newsletters, or even a safety letter. One form of work safety communication, which is direct human-to-human communication, one of which is by using a Safety Talk and reducing the possibility of work accidents that occur. Safety Talk is important because it can have an impact on security at work and is in accordance with applicable procedures, so that the procedures conveyed will always be remembered by workers when doing work. Safety Talk is carried out by gathering workers before starting work in a place, usually in the field or other open space, by conveying important points that need to be considered by workers when working for work safety. This will be conveyed by supervisors or field supervisors. Safety Talk material for supervisors must be communicative so that it is easily understood and understood by all employees, that workers really understand and understand about work safety. The material that was delivered during the safety talk included using proper and correct Personal Protective Equipment (PPE), how to do First Aid in Accidents (P3K), proper use of light fire extinguishers (APAR), clean work environment, correct work procedures etc.

Tips for the Safety Talk to run more effectively are with supervisors to make the best possible preparation by looking for references and understanding the material to be delivered, brief important points and choosing to focus on one topic of discussion so that workers don't get bored listening to material that is too long, build communication two-way interactive way, can also occasionally be interspersed with humor so that the atmosphere becomes more fluid and provides creative safety talk material - not only limited to verbal delivery, for example maybe using props in the form of pictures, videos, or other supporting tools.

How to Overcome and Cultivate Salvation:

Design a Safe Work Area, layout arrangement is very important to meet work effectiveness, reduce the potential for errors, and minimize dangerous events that can result in accidents. Always Maintain Cleanliness of the Work Area. In a clean work area where hazards are removed, besides

that, a clean work area can increase greater productivity. Involve Employees. Employees are the first to understand the conditions in the workplace the most. They will also be well motivated for safety by involving employees then establishing a safety planning process. Provide Structured Work Instructions. Instructions are given in writing and make sure employees read, study and understand and make sure employees recognize it as a safety work program. Focus on the things that are feasible or sensible to do. It is important to focus on the big problem, not the violation resulting in injury or accident. Be open to listening to input. Criticism from subordinates of the workplace, leaders must be ready to receive input to encourage employees to report shortcomings, issues, insights into safety issues. Making observations. Studying every employee in his job. Pay attention and make corrections to them and give rewards to those who do tasks well and they are made as role models for other staff. Hazard, Danger. Avoid hazards, carry out routine checks at workplaces are the need for understanding, proficiency to carry out Hazard Identification properly and correctly. Conduct a Review. An annual review by conducting a workplace inspection or evaluation of a review of safety work guidelines in the workplace and a comprehensive review of the safety system, program or any changes in the workplace must be carried out.

Human Resources Management

Human resource management is a way of maintaining human resources in order to be able to provide the best possible for the achievement of organizational goals. (Syafaruddin Alwi, 2001 in Taufiqur Rachman, 2014). The use of human resource maintenance is to increase the contribution or contribution of productivity to the company. The contributions include: Improve work commitment. Investigate a high productivity workforce. Improve competence, namely morale, self-confidence, education, and workforce skills. Creating a work climate that is safe and secure. The meaning of work climate is the conditions, situations, and conditions of the work environment which are factors supporting or driving employees. with motivation and competence are determinants of individual workforce performance. daily behavior and actions in carrying out tasks as expected by the company. A conducive work climate is characterized by the creation of high enthusiasm and passion for work from the workforce.

There are several principles in managing HR in a company related to OHS management, namely: Labor is managed for the company's main assets or assets. Workforce is the integrity and desire to serve the company and the community in its environment. The workforce is managed to increase knowledge and commitment to work and to the company. Manpower is regulated with an orientation towards achieving accountable results. Manpower is managed with a focus on making the work team achieve common interests and increase cooperation. Manpower is managed for the creation and enhancement of networks (networking).

Hypothesis

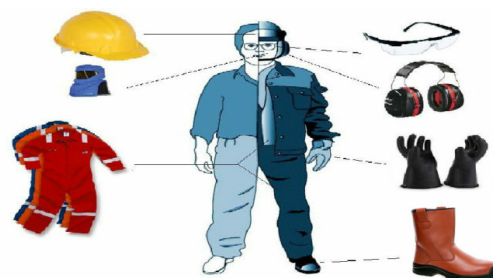


Figure 1. Models and various Personal Protective Equipment / PPE

Basic personal protective equipment (PPE) equipment that must be in place to ensure worker safety. Wear protective clothing

Known as the 'Dangri' or the 'Boiler Suit' is Coberall's protective clothing to protect the body from harmful substances such as hot oil, water, welding sparks.

Helmet

The best head protection is a hard-plastic helmet. A chin strap that keeps the helmet in place when traveling or falling. The head is one of the most important parts of the human body.

Safety Shoes

Made of elastic skin so that the feet are not injured or scuffed and hard metal on the head of the shoes. The benefits of safety shoes are to ensure that no injuries occur to the feet of the workers or crew.

Gloves

Gloves are used in operations where it is imperative to protect the hands, Gloves provided are heat-resistant gloves, for working on hot surfaces, cotton gloves, for normal work operations, welding gloves, chemical gloves, etc.

Googles

Welding goggles are used protective in welding activities that protect the eyes from high intensity splashes. Eyes are the most sensitive part of the human body and in daily operations have a high probability of eye injury, glasses are used for eye protection.

Plug

Earmuffs or ear stickers are used by workers to balance the sound heard by humans so that the ears stay safe. For example, the buzzing sound of 110-120 db is a very high sound frequency for the human ear, even within a few minutes it can cause headaches, irritation and hearing loss.

Safety Harness

Repair and painting of high surfaces requires crew members to reach areas that are not easy to access. The safety harness is used by the operator at one end and tied at a strong point at the end of the rope.

Face mask

Carbon that includes particles harmful to human body if inhaled directly, to avoid. Face masks are used as a shield from harmful particles.

Chemical Suit

Chemical suits are used to avoid situations and conditions such as hazardous chemicals when in direct contact with human skin.

Welding Shields

Welding shields or masks that are useful as eye protection from direct contact with ultraviolet rays from welding sparks. Welding is a common activity for structural repairs etc.

Literature and referring to previous research, the following hypothesis can be drawn:

1. SMK3 → Technical Aspects

The rules and procedures that have been established can be obeyed by the workers so that by themselves the work safety in the project will increase and function to minimize accidents that occur due to Unsafe Condition because it can provide structural limitations to the implementation of work safety programs in the workplace.

Rules and procedures in work safety should not be too complicated so that it is difficult to understand. Easy to implement properly, has strict sanctions if the rules and safety procedures are violated.

2. SMK3 → SDM

Work safety culture is also related to personal attitudes, thoughts and behavior. Poor behavior in occupational safety and health is heavily influenced by culture in developing countries and increases the risk of workplace accidents. Occupational health belongs to the group of the entire culture of an organization.

3. SMK3 → Work environment

The main triggers for Unsafe act and unsafe condition are organizational factors which in turn affect work environment factors.

4. Technical Aspects → HR

If the rules and procedures have been established and carried out properly / properly by the workers, then the work safety in the project will increase by itself. Regulations are useful for minimizing accidents that will occur.

5. Technical Aspects → Work Accidents

Unsafe behavior is a type of trait that leads to accidents such as working without regard for safety, working without approval, not using safety equipment, operating at dangerous speeds, using non-standard equipment, acting violently, lack of education, bodily disorders or disturbed emotional states. Behavioral Safety practitioners argue that safety practitioners have forgotten the main aspect in preventing work accidents is the behavioral aspect of workers. Cooper's opinion in Atjo Wahyu (2014) states that although it is quite difficult to control properly, 80-95 percent of all work accidents that occur are caused by unsafe behavior.

6. HR → Work Accidents

Worker competence can be established through occupational safety training programs or by guidance on hazards that may arise in connection with work.

Worker competence can be assessed based on the knowledge, abilities and experience of workers which are closely related to occupational safety training.

7. Work Environment → Work Accident

Negligence that may occur in the workplace can result in losses to humans, equipment, materials and the environment due to the presence of materials or substances in the workplace which can cause accidents due to lack of strict controls.

3. Methodology

Data Analysis Method

From several literatures, some data needed to support the making of this research can be collected so that the desired research objectives can be accomplished.

Population and Sample

The population is a generalization group consisting of objects or subjects that have certain qualities and characteristics that are determined by research so that they can be understood, and conclusions can be drawn (Sugiyono, 2005). The study population is all workers who work on building construction projects that meet the following criteria:

1. Have at least 1 year of work experience
2. Currently carrying out a construction project.
3. Willing to be a respondent during the research process

The sample is part of the total characteristics of the population (Sugiyono, 2005). The sample in this experiment is Makassar building project workers who represent the population. The sampling technique uses simple random sampling method with the hope that each individual in the population has the same opportunity to be taken as a sample.

Research Procedure

Collecting data about K3 from the field and literature, namely books and journals, these data are then used as guidelines for preparing instrument forms. The data obtained from fields and literature are then used as guidelines for making instrument forms. In primary data collection, what is done first is observation of the project which will be used as an object and then designing the instrument. Then spread the instruments on the sidewalk development construction project in Kemang, Jakarta which became the object of research. The processed data is then validated. If yes, the analysis continues, but if the processed data is found to be invalid, then the data is collected again. The data that has been analyzed are then discussed in the discussion chapter.

4. Result and Discussion

Work accidents occur due to members' careless or carelessness behavior or they can also be caused by unsafe conditions, whether they are physical, or environmental impacts. Based on available data, 85% of the things that trigger work accidents are caused by a risky event (unsafe act) and 15% are caused by an unsafe condition. The information that triggered the work accident is as follows: Unsafe conditions, namely several physical environmental factors that can result in accidents such as

machines without safety, unsafe lighting, inefficient personal protective equipment (PPE), greasy floors. Action that is risky (unsafe act), namely behavior or mistakes that can lead to accidents such as carelessly, not using personal protective equipment, etc. This matter is caused by health problems, visual disturbances, illness, and lack of knowledge in the work process, work steps.

According to Ridley (2008), things that trigger work accidents are as follows: Working Conditions

- Poor management control.
 - Work standards are still minimal.
 - Does not meet standards.
 - Inadequate equipment or unsatisfied workplaces.
- b. The Mistake of People
- Minimal skills and education.
 - Physical and mental problems.
 - Insufficient motivation or mismanagement.
 - Inattentive sense.
- c. Unsafe Action
- Not following the approved work method.
 - Take short walks.
 - Remove or not use safety equipment.
- d. Accident
- Unforeseen events.
 - There is contact with machinery or electricity at risk.
 - Fall.
 - Ordered falling machines or materials, etc.

Types of Work Accidents

There are three types of work accidents, namely:

- Accident is an unexpected event that can cause harm to both humans and property.
- Incident is an unexpected event that has not caused a loss.
- Near miss is an incident that has almost a bad result, in other words this incident almost results in an incident or accident.

Based on the place and time, work accidents are divided into four types, namely:

1. Work accidents due to work immediately.
2. Accidents while at work.
3. Accident on the way (from the place of residence to the workplace and vice versa and through a reasonable road), illness due to work.

Based on the level of the resulting effects, work accidents can be divided into three types, namely:

- Minor work accidents namely work accidents that must be recovered on that day as well as being able to carry out their responsibilities again or rest <2 days. Example: slipped, rubbed, hit by broken glass, fell and sprained.
- Moderate work accidents namely work accidents that require healing and need to rest for > 2 days. Example: pinched, torn, burns.
- Serious work accidents namely work accidents where there is amputation and malfunction of the body. Example: fracture.

Work Accident Triggers

Based on statistical results, 85% of the triggers for work accidents are due to unsafe acts and 15% due to unsafe conditions.

The information that triggers the work accident is as follows:

- An unsafe condition, namely a number of physical environmental factors that can cause accidents such as machines without safety, unsafe lighting, personal protective equipment (PPE), oily floors, etc.
- This is caused by health problems, visual disturbances, illness, worry and lack of knowledge in work processes, work steps. Unsafe acts, namely behavior or mistakes that can lead to accidents such as carelessly, not using tools personal protection, etc.

Meanwhile, according to Ridley (2008), the things that trigger work accidents are as follows:

a. Working conditions / climate

- Management is lacking in control.
- Work standards are minimal and do not meet standards.
- Equipment and workplaces that do not meet requirements.

b. The Mistake of People

- Minimal knowledge and skills.
- Physical or mental illness.
- misplaced and minimal motivation
- Little or no attention

c. Unsafe Action

- Not complying with the work method that has been agreed upon.
- Want to quickly find a short path.
- PPE is not used as work safety equipment.

d. Accident

- Unexpected things.
- Use of machinery or electricity at risk.
- Dropped, hit by machine or fallen material etc.

5. Conclusion

Work accidents from the research results, it can be concluded that work accidents can be caused by factors such as the following: Physical aspects, which include lighting, air temperature, humidity, velocity of air, sound / tone echoes, mechanical vibration, radiation, air pressure, and so on. Chemical aspects, such as gases, vapors, dust, fog, clouds, liquids, and some solid objects. Biological aspects, either from groups of animals or from groups of plants. Physiological aspects, such as machine construction, behavior, and work steps. Mental-psychological aspects, such as job formation, relations between workers or perhaps with entrepreneurs, job maintenance, and others. Based on the research results, the compilers provide the following suggestions: For maximum results, further research should be carried out by adding variables that may affect the level of work accidents. Before conducting the research, it is better to conduct a simulation test (pre-test) first to prevent the risk of invalid indicators. The relationship between variables should refer to previous research so that the possibility of insignificant data can be minimized. For further research, consultants should also be

used as respondents because this research is only limited to contractors. The need for input from experts and to be more open to receiving complaints from the public.

References

- Arifin B.A, dkk. 2013. *Faktor Yang Berhubungan dengan Kesiediaan Pekerja dalam Penggunaan Alat Pelindung Diri (APD)*
- Aria Gusti.2011. *Manajemen Resiko dalam Keselamatan dan Kesehatan Kerja.*
- Bambang Triwibowo dkk. 2003. *Referensi untuk Kontraktor Bangunan Gedung dan Sipil.* Jakarta: Gramedia Pustaka Utama.
- Chandra, Aditya, 2005. *Pengaruh Budaya Keselamatan Kerja Pada Perilaku Pekerja Terhadap Keselamatan Kerja*, Master Thesis, Bachelor Thesis, Petra Christian University
- DepartemenKesehatan. *Undang-Undang Kesehatan RI pasal 23 mengenai Kesehatan Kerja.* Jakarta 1992. Kementerian TenagaKerjadadanTransmigrasi Indonesia.1970. *Undang-Undang Nomor 1 Tahun 1970 tentang Keselamatan Kerja.* Jakarta. Republik Indonesia.
- Eugenia Liliawati Muljono. 1997. *Peraturan Sistem Manajemen Keselamatan dan Kesehatan Kerja.* Jakarta: Harvarindo.
- Juhandi, N., & Fahlevi, M. (2019). Tax Policy and Fiscal Consolidation on Corporate Income Tax. *Journal of Business, Management, & Accounting*, 1(1).
- Kuntoro, 2010. *Metode Sampling dan Penentuan Besar Sampel*, Pustaka Melati. Surabaya
- Mohamed, S. 2002. Safety Climate in Construction Site Environments. *Journal of Constructions Engineering and Management*
- Peraturan Pemerintah RI No. 14 Tahun 1993 *Tentang Penyelenggaraan Program Jaminan Sosial Tenaga Kerja.*
- Rachman, Taufiqur. 2014. *Keselamatan dan Kesehatan Kerja industri.*
- Reini D.Wirahadikusumah. 2007. *Tantangan Masalah Keselamatan dan Kesehatan Kerja pada Proyek Konstruksi di Indonesia.*Fakultas Teknik Sipil dan Lingkungan, Institut Teknologi Bandung.
- Sari Mustika.2007. *Penerapan Keselamatan dan Kesehatan Kerja (K3) Belum Menjadi Suatu Kesatuan pada Pelaksanaan Pekerjaan Konstruksi.* Bulletin BPKSDM, Yogyakarta.
- Suizer Azaroff, B., 1999, Safer Behavior; Fewer Injuries. www.behavior.org Diakses 21 Juni 2012

Surat Keputusan Bersama Menteri Pekerjaan Umum dan Menteri Tenaga Kerja No. Kep.174/MEN/1986-104/KPTS/1986: *Pedoman Keselamatan dan Kesehatan Kerja pada Tempat Kegiatan Konstruksi.*

Syahril Effendy Pasaribu. 2005. *Manajemen Keselamatan dan Kesehatan Kerja di Proyek Industri jasa Konstruksi.*