

# The importance of safety in the workplace construction essay



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Safety, health and environment are important thing in our workplace. This is the top priority in every workplace. Something must need to be done to encourage employees, employer and industries to put safety, health and environment at the top of their agenda. The most important thing is our commitment in taking the action and our commitment to take suitable changes to ensure that safety, health and environment is forefront of everyone's thinking. Thus, the objective of this topic is to know how engineers can contribute in the awareness of safety, health and environment. In addition, an engineer also must always keep abreast with development in order to be a successful engineer in all aspects.

## II. METHODOLOGY

Methodology used in preparing the report (do the work) are do research on the selected titles, collecting the data, interpreting the data, and finding the suitable case of study as the example.

## III. DISCUSSION

This part of report will discuss about the theory, concept and explanation on contributions of engineer in safety, health and environment. The ethics on safety

We were also discussing the ways of an engineer can keep abreast with the development of technologies without confining any other discipline

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- i. Contribution in safety

Safety is priority thing in workplace. We need to ensure that safety in workplace because to minimize the risk of accident occur [1]. Every employee has their own role to make sure that nothing happened when doing the task. When something occurs, the companies need to use a lot of money either in new design or pay the money to the victims.

There are many ways how to contribute awareness in safety. One of them is engineer need to participate in design state [2]. With this way, engineer will know the problem in their design. Problem in the design will be found during the testing design. With this testing design, engineer can solve or upgrade their design. Other than that, enforcement snag should be carried out continuously. In order to prevent workers from repeating their false, they need to be penalized. If it involves serious case, they need to be charge in court. However, some people state that this is not proper way to encourage them to become a good worker. Serious enforcement and inspection has to be made especially for high rise projects. This is to ensure that all workers ensure that the equipment and structures at workplace would not pose a danger to the workers themselves and the public. Perhaps in the future, the authorities would have the right to penalize workers who defy safety and health guidelines at a workplace. Another suggestion is the ministry could also publish the names of engineers, details of their projects and their track records in meeting safety guidelines.

Training and education are also important to educate worker. With training and education not only reduce the accident also reduce the cost and save life. A study by Toole (2002) had found that if workers do not have proper

training on safety, they may not be able to recognize potential hazards at a site.

The workers also need to sit for a basic skills test written examination on safety. This exam carried out to determine the competency level of new workers on their knowledge and awareness. At Singapore, government of Singapore has introduced a skill test to construction workers in the country. Workers who passed the examination would be awarded with skill evaluation certificate. But Malaysian government still did not use this approach. Maybe in the next future, it can be used to increase the safety in Malaysia's industry.

The main problem with the safety issues is the attitude of the worker. They need to change their behavior in order to prevent accident occur to them. Some workers did not expose with the environment of workplace. So, they need to enter programs that teach them how to contribute awareness in safety.

Last but not least, commitments of management also important in adopting safe work at workplace. Nothing happened if only the workers take part in awareness of safety. Management need to prepare a safety workplace like prepare a fire hole in building and also put a poster about safety in building.

## ii. Contribution in Health

There are many ways to contribute awareness in health. Actually, we can take ways from awareness in safety as contribution awareness in health. One of the ways to contribute awareness in health is a change in designer

mindset. Some designers always think their design without thinking others prospects. They just think their design can publish or not. This is bad attitude because they not think about the others.

Other than that, motivate the designer also one of important way of contribution of awareness in health. Many designers need incentives beyond the benefits to worker safety and health, in order to wholeheartedly embrace the practice. Other potential sources of motivation and incentive include the design contract, market forces, knowledge of potential cost savings, professional codes of ethics, building codes, standard design practice, and legislative actions such as regulations that clearly recognize a safety role for designers.

Designers also need have high knowledge. The lack of safety and health knowledge among designers should be addressed by providing training on safety health-related topics during the designers' formal education and continuing professional development. Alternative designs that enhance safety and health must be collected and made available for reference. Also, designers need practical guidelines for addressing safety amid the complex array of design processes and regulations they encounter in their work.

Constructor involvement also plays the important role in contribution awareness in health and safety. Constructors and construction workers can help designers recognize potential construction safety hazards and identify a facility's permanent design features that could be modified to minimize such hazards.

### iii. Contribution to Environment

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Nowadays, environmental protection has become significant issues. In order to increase the awareness in this problem, Environmental Ethics have been introduced in purpose to develop roots of environmental movement and to understand the responsibility to the environment [1].

Engineers lead in the creation of solutions for the problems caused by current technologies. Thus, engineers play important roles in protecting environment. Environment's protection is needed in order to protect the integrity of biosphere, to control dangerous and unnatural substances and lastly to provide a healthy environment for human beings [1].

One of the important contributions of engineer to environmental issue is working to find solutions to the problems caused by the modern technology. The skills and knowledge of an engineer is needed to help to protect the environment and this duty is one of the engineering codes of ethics.

The concern about the environment has grown thus when developing a new technology, engineers should ensure designed product does not affect the environment. The product that has been produced must have the least effect to the environment. For examples, many of the products nowadays are recyclable and can be reused thus this can save the source of our nature.

To make sure the environment is protected and be taking care with the development of technologies, environmental code of ethics should be practice by all engineers. Professional codes of ethics already told us the safety of people and environment to be of paramount importance. This statement clearly states that engineer do have responsibility to ensure their work done in the most environmentally safe manner [1]. In reality, there <https://assignbuster.com/the-importance-of-safety-in-the-workplace-construction-essay/>

might be complexity on these issues such as conflict between employer's desires and the employee. When an employer suggest on project that ethically wrong and gave a big impact on environment, an engineer have the right to express his opinion on moral issues regarding environment. In this case, both professional and personal ethics can be used as the guidelines in making a decision.

Basically, an engineer needs to make a decision in the area which he competent. Thus, for many environmental issues, engineers should seek for counsel who have better knowledge in environments policy in order to help analyze and to understand the possible consequences of a project done to the environment. Engineers also can corporate with biologists or public health experts when developing a new project in order to ensure the project conducted in the most environmental manner.

Sustainable Design is widely been practiced in most development countries in this world. It is also known as Green Engineering in some countries.

Sustainable Development is the challenge of meeting human needed in many areas likely in natural resources, industrial products, energy, food, transportation and effective waste management [4]. This concept also conserved and protected environmental quality and the natural resource base essential for future development [4]. This is to ensure that engineer product's design does not harm the environment. By using this Green Engineering Principles, an engineer can help to maintain the integrity of the environment and most importantly to make sure that quality of human life can be sustained.

#### iv. Way to keep abreast with the development of technology

In this technological era, an engineer must go ahead and keep abreast with the new development. One way to keep abreast with the development of technology is to attend the professional conference or seminar. Usually in the conference all engineer from various field are pleasantly presenting their new research and projects.

Globalization is trending in world right now. It is a term that describes the global actions toward economy, politic, technology and society needed which makes national boundaries is less important. Globalization is changing the way of our lives either on a personal basis or social relationship. Engineers should take advantages on globalization as it is a world without boundaries. The effects of globalization includes such as the emergence of worldwide production markets, expanded level of trades and the development of global telecommunications system which allow engineers to work in any places in the world while keep in contact in the other part of the world.

The rapidly changing skill requirements and knowledge in the engineering profession are important challenges to engineer. Thus, lifelong learning is a way for individual engineers to keep abreast with the new fundamentals. Merely take notes on the new development and takes training on the latest technology are good ways to keep in the right track of the current developments.

It is noticeable that an engineer should make decision only in the area which he is competent. Thus, in developing new project, all engineers in various area should cooperates and work together to ensure the project done have <https://assignbuster.com/the-importance-of-safety-in-the-workplace-construction-essay/>



good impacts to society. Cooperation of all engineers can keep them abreast with the current technologies that been produced and make them aware of the new products that will be produced.

#### v. Case Study on Clean Water: The Professional Engineer's Contribution to Health

In 1848, after a second outbreak of cholera again due to polluted drinking water in Glasgow, Scotland, UK, a water supply system was suggested to overcome the growing health problem[5].

Five years later, John Fredrick Bateman, a civil engineer, concluded his study to find the best potential source for Glasgow, recommending the high-quality water of Loch Katrine.

The resulting supply system took three and half years to complete and involved the construction of a dam on the loch, 42km of aqueduct, a similar length of trunk mains, 74km of distribution pipes and the Mugdock storage reservoir at Milngavie.

Over 140 years later, changes to European and UK water quality standards, particularly in respect of disinfectant by-products and micro-organisms such as Cryptosporidia, formed the main driver behind the new water treatment plant.

In 2003, the main contractor, MJ Gleeson was appointed to manage the design and construction of the new Loch Katrine Water Works. The design of the new treatment works involved over 100 technical staffs from 25 different disciplines. Disciplines involved included are civil engineering, chemical  
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engineering, mechanical engineering, electrical engineering, environmental consultants, cost consultants etc.

In addition, due to the Katrine is a famous tourism spot, environmental factors were considered for the construction. In order to minimize the visual and landscape impacts of the project, the plant is partially sunk into ground while open exposed areas have been given a natural stone finish and service reservoir has a green roof [5]. The sludge system was moved into the sewer system on the other side of the site, which prevented developing a separate on-site sludge treatment plant.

To summarize, the original works was for transporting water form Loch Katrine to Glasgow with very little in the way of treatment. The fundamental function of the new works is treatment. Both are excellent examples of outstanding professional engineering.

#### IV. CONCLUSION

As the conclusion, engineers have the responsibility to concern on health, safety and environment issues for their design and workplace. In order to overcome new threat, they also need to keep updated with new technology such that they can contribute more in improving the life of mankind.

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