



THE STUDY OF REGULATIONS RELATING  
TO SAFETY IN FACTORY

BY  
MR. SURATTIPONG KONGTHONGNORK

AN INDEPENDENT STUDY PAPER SUBMITTED IN  
PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF MASTER OF LAWS  
(BUSINESS LAWS)

GRADUATE SCHOOL OF LAW  
ASSUMPTION UNIVERSITY

APRIL 2018



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Independent Study Paper Title : The Study of Regulations Relating to Safety in  
Factory

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Major : Master of Laws (Business Law)

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## ABSTRACT

This Independent Study Paper has been prepared with the purpose of identifying the problems of the regulations relating to safety in factory according to the Factory Act B.E. 2535 and the Occupational Safety Health and Environment Act B.E. 2554. It focuses on both legal and practical problems by comparing to the similar regulations in the Singapore and United States in order to point out the difference on the matter alike, as well as to be able to provide solutions to problems that might occur

This Independent Study Paper found out that there are two complications. In the first case, there is the complication of the regulation enforcement. In this case, there are two governmental sectors who are in charge of the control and monitor of matters in relation to safety in factory namely: the Ministry of Industry and the Ministry of Labour. This leads to the unnecessary waste of government's budget and human resource. In the second case, there is the complication of regulation compliance resulted from the issuance of different laws by two governmental sectors. These laws enforcing on factory operators prescribe requirements and standards differently, leading to confusion among factory operators, and doubled burden on factory operators when they need to comply to these repetitive laws. From the study of Singapore and United States, as it is found that there is only one piece of legislation enforcing on the factory safety, there is no problem with repetitive laws. Thus, the researcher suggests the guidelines to improve laws in relation to factory safety not to be repetitive and to be in accordance with an international standard. Nevertheless, since the transfer of all duties on such matter to one organization, as seen in other countries, is difficult, the researcher also suggests a solution. In such regard, there shall be an agreement between two organizations that providing that factory operators

have already complied with either one piece of legislation, obtained permission from either ministry, it shall be deemed that such factory operators have already complied with or obtained permission from other ministry.



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# Chapter 1

## Introduction

### 1.1 Background and General Statement of the Problems

The rise of industrial capitalism and the growth of the private market brought forward the factory system which depends on an unskilled laboring class and the use of power-driven machinery.

According to accidental statistics in industrial factory in 2015, the Department of Industrial Factory by Safety Technology Bureau has collected accidental and fire information from various related departments including the Office of Industrial Factory Branch 1-5 and the Office of Monitoring and Evaluation. They collected the accidental information in their responsible province and media. All information was used not only for information, trends and causes of accident analysis but also for finding preventive measures against safety in industrial factory. In 2015, there were 105 accidents which were divided into four types includes (1) fires: 81 times (2) explosions: seven times (3) chemical substances leaks: seven times and (4) others including machinery accident, electricity and natural disasters: ten times.' These events created many risks for workers including accidents and working diseases, and resultant financial problems caused by an inability to workers. It shows that the existed safety in factory laws cannot help reduce factory accidents. It is defective of laws, law enforcement and compliance of law.

In the present time, Thailand has two safety in factory laws which include Factory Act B.E. 2535 (1992) and Occupational Safety, Health and Environment Act B.E. 2554 (2011). They are applied in the same time and place in an overlapping manner. The factory safety standard should be high. The accident number should be decreased. Unfortunately, such laws cannot help reduce accident in factory against workers. They are not in the same direction. They created problems on law

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Safety Technology Bureau, Department of Industrial Factory, Industrial Factory Accidental Statistic in 2015, at <http://php.diw.go.th/safety/wp-content/uploads/2016/02/s58.pdf>, (last visited 31 October 2017).

enforcement and law compliance.<sup>2</sup> In addition, they are burdens for state agencies and privates. On the part of state agencies, there are at least two Ministries to regulate factories including the Ministry of Industry and the Ministry of Labour. On the part of private sector, factory operators are employers at the same time. This is redundancy of laws which shall arise many disadvantages such as waste of national budget, increasing superfluous expenses. As a result, the costs of production must be high causing high price of products.

In foreign countries, some countries have two safeties in factory laws. Some countries have one factories safety law. In the present time, Singapore has one safety in factory law namely: Workplace Safety and Health Act 2006. With the Workplace Safety and Health Act coming into force on 1 March 2006, the Factories Act<sup>3</sup> was repealed.<sup>4</sup> It is called repealed act. The Singapore Government imposes the duties to control, regulate and supervise factory safety under Workplace Safety and Health Act 2006 which focuses on the health, safety and welfare of persons at working places instead of the former Factory Act. The Workplace Safety and Health Act covers all employer, factory operator and factory occupier. Their duties are in accordance with the Workplace Safety and Health Act. In United States, there is only one law which covers the safety in factory. It is Public law 91-596, which officially known as the Occupational Safety and Health Act 1970 and unofficially known as the Williams-Steigers Act. It is under the responsibility of the Department of Labor, United States government. So, there is no problem on double law enforcement and law compliance.

Therefore, this study aims to examine the appropriate ways and probable means to integrate safety in factory laws to be one harmoniously combination, and to solve the problems raised by this research.

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<sup>2</sup> Phairach Chanduang, "Improvement of Laws Relating to Securing the Permit to Establish and Operate Factory in Facilitation of Investment: Study on the Repetition and Redundance of Laws," (Master Degree of Law Thesis, Graduate school, Ramkhamhaeng University, 1988), p.2.

<sup>3</sup> Singapore Factory Act 1973 (Cap 104, 1998 Rev Ed.).

<sup>4</sup> Ravi Chandran, "The Workplace Safety and Health Act: An over view," Journal of Law 19 (January 2007): 15.

## **1.2 Hypothesis of the Study**

According to the present Thai safety in factory laws under Factory Act B.E. 2535, and Occupational Safety, Health and Environment Act B.E. 2554, the factory operators are governed by two laws. This is the redundancy of safety in factory laws. It creates burdens not only for government but also industrial factory operators. Therefore, Thai government should abolish the Factory Act B.E. 2535 and implement only Occupational Safety, Health and Environment Act B.E. 2554. If it still enforces two existing laws, they should be in the same direction and substitutable.

## **1.3 Objectives of the Study**

- 1.3.1 To study safety in factory laws problems.
- 1.3.2 To study safety in factory laws in Foreign Countries.
- 1.3.3 To analyze the problems and solutions of safety in factory laws.
- 1.3.4 To propose new guidelines for development of safety in factory laws.

## **1.4 Scope of the Study**

This independent study focuses on the problems of redundant safety in factory laws which are Factory Act B.E. 2535 and Occupational Safety, Health and Environment Act B.E. 2554 of Thailand, and to compare the aforementioned with safety in factory laws of Singapore includes the Factory Act 1973 and Workplace Safety and Health Act 2006 and the United States Occupational Safety and Health Act 1970.

## **1.5 Study of the Methodology**

This research paper will analyze and research by the method of Documentary Research. It will collect related information in Thailand and in foreign countries including Singapore and United States. This information comes from textbooks, articles, journals and theses.



## 1.6 Expectation of the Study

- 1.6.1 To know the safety in factory laws problems.
- 1.6.2 To know the safety in factory laws in Foreign Countries.
- 1.6.3 To know the problems and solutions of safety in factory laws.
- 1.6.4 To provide new guidelines for development of safety in factory laws.



## Chapter 2

### Provisions Relating to Safety in Factory in Thailand

This Chapter will examine the meaning of the significant keywords including safety, safety in factory, accident and learns accident theory. It explains how the accident occurs and how to prevent accident in factory. In addition, it shows the legal concept of safety in factory law in each age along with the two models of safety in factory laws in United States and the United Kingdom. Lastly, the writer will examine the applicable laws on safety in factory under Factory Act B.E. 2535 and Occupational Safety, Health and Environment Act B.E. 2554 along with the Ministerial Regulations and the Notifications of the Ministry.

#### 2.1 Meaning of Safety in Factory and Accident Theory

There are many significant words in this research illustrates safety in factory and accident. Further, researcher studies accident theory.

##### 2.1.1 Safety in Factory

Safety means a state in which or a place where you are safe and not in danger or at risk.<sup>5</sup> Safety is the measure of relative freedom from risks or dangers. Safety is the degree of freedom from risks and hazards in any environment-home, office, factory, mine, schools, or eliminated than others.<sup>6</sup>

According to Factory Act B.E. 2535, "Factory means building, premises, or vehicle using machine or machines with total power or an equivalent of five horsepower or more, which employs seven workers or more with or without machinery to manufacture, produce, assemble, pack, repair, maintain, test, improve, process, convey, keep, or destroy anything in accordance with the type or kind of factory as prescribed in the Ministerial Regulations."<sup>7</sup>

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<sup>5</sup> Colin McIntosh, Cambridge Advanced Learner's Dictionary, 4<sup>th</sup> ed. (United Kingdom: University Printing House, 2014), p. 1358.

<sup>6</sup> David S. Gloss and Mirian Gayle Wardle, Introduction to Safety Engineering, 1<sup>st</sup> ed. (New York: John Wiley & Sons, Inc. 1984), p.3.

<sup>7</sup> Section 5 Factory Act B.E. 2535.

"Safety in factory means a state which without accident in factory or a state which people are safe, with no pain or injured body, loss of properties and loss from production process. This includes accidental prevention and the minimal accidental loss."<sup>8</sup>

In an occupational safety context, industrial safety and health refers to the all kinds of operation and event management within an industry by minimizing hazards, risks, accidents and near misses, for the purpose of employee and asset protection. For the maximum level of protection in industry, any issue of related laws, compliance and appropriate practices should be promptly addressed. Employers should also ensure that these are the maximum safety standard is taken seriously.<sup>9</sup>

Safety in factory law aims to protect people who work in factory. They must be safe and healthy. When they get injured from occupation, they shall have rights to claim for compensation. There are important six points of safety in factory provisions as follows: (1) Working condition, hours of work, holiday and medical treatment (2) Factory establishment control, machine installation, safe tool and equipment, safety measures and preventive measures (3) Working disease appointment, dangerous substances, radiance and preventive measures (5) Compensation payment, and (6) Inspection and control of factory to promote employee's safety and health.<sup>10</sup>

### 2.1.2 Accident

Accident is no statutory definition of it. It appears in the case of Trim Joint District School Board v. Kelly "Speak generally... an accident means any unintended and unexpected occurrence which produces hurt or loss. But it is often used to denote any unintended or unexpected loss and hurt apart from its cause; and if the cause is not known the loss or hurt itself would certainly be called an accident... the great majority of what are called accidents are occasioned by carelessness; but for

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<sup>8</sup> Safety Training, Meaning of Safety in Factory, at <https://sarahwhatsup.com/2017/05/15.html>, (last visited 15 November 2017).

<sup>9</sup> Safe Opedia, Industrial Safety, at <https://www.safeopedia.com/definition/1052/industrial-safety.html>, (last visited 15 November 2017).

<sup>10</sup> Witoon Simachokedee, Explanation on Factory Act B.E.2535(1992), 5<sup>th</sup> ed. (Bangkok: Technology Promotion Association (Thailand-Japan), 2000), p. 130.

legal purpose it is often unimportant to distinguish careless from other unintended and unexpected events"<sup>11</sup>

Accident means something bad or intended not to be bad, and unexpected happens with damages on something or injuries on someone.<sup>12</sup>

### 2.1.3 Accident Theory

The accident theory is classified into five points includes causes of accident, theory of accident occurrence, losses from accident and accident prevention.

#### 1. Causes of Accident<sup>13</sup>

The occurrence of accident is not from misfortune but it is occurred by specified causes. The accident can be prevented by suitably occupational safety strengthening. H.W. Heinrich seriously examined the causes of accident in factory in 1920. It appeared that there are three significant main causes of accident.<sup>14</sup>

##### 1) Human causes

Accidents sometimes occur due to the intention to take risk. In general, people tend to judge risk to be small. However, it is still risk, and in some occasions, it leads to an accident.<sup>5</sup>

The human causes are the major cause of accident. It constitutes around eighty-eight percent of the total accident number. They are incorrect operation, impatience, negligence and a habit of risk taker.

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<sup>11</sup> Witoon Simachokedee, Ibid.

<sup>12</sup> Colin McIntosh, Cambridge Advanced Learner's Dictionary, 4<sup>th</sup> ed. (United Kingdom: University Printing House, 2014), p. 9.

<sup>13</sup> Witoon Simachokedee, op.cit., p. 133.

<sup>14</sup> Work Zone Safety and Efficiency Transportation Center, Cleveland State University, Theory of Accident Causation, at [http://www.academic.csuohio.edu/duffy/s/Section 03 .pdf](http://www.academic.csuohio.edu/duffy/s/Section%2003.pdf), (last visited 12 December 2017).

<sup>15</sup> Frank Lees, Loss prevention in the process industries: Hazard identification, assessment and control, 2<sup>nd</sup> ed. (Oxford: Butterworth-Heinemann, 1996.) p. 26/6.



## 2) Mechanical Failure

It is a minor cause of accident. It is around ten percent of the total accident number. Normally, they are dangerous part of machine without secure fence, unfenced equipment and machinery, unsuitable factory layout and working environment.<sup>16</sup>

## 3) Act of God

It is little cause of accident. It is only two per cent. It is natural phenomena. Human cannot prevent and control such accident such as storm, flood and lighting.

In conclusion, the book of Industrial Accident Prevention that is written by H.M. Heinrich, shows that there are two main causes of accident as follows: (1) Unsafe Acts (eighty-eight percent) and (2) Unsafe Conditions (fifteen per cent).<sup>17</sup>

## 2. Theory of Accident Occurrence

There are many theories and concepts of accident occurrence. In this stage, the writer will focus on three important theories which includes Domino Theory, Firenze System Model and Model of Accident (Arm Force of United States of America).<sup>18</sup>

### 1) Domino Theory

H.W. Heinrich is the person who initiated this theory. There are various important principles which are sorted accordingly. If one factor occurs, another factor will occur following the previous one, resulting in injury.<sup>19</sup>

The components of Domino theory are as follows by order:<sup>20</sup>

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<sup>16</sup> Vitoon Simachokdee, op., cit., p. 134.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> Pejman Ghasemi Poor Sabet et al, "Application of Domino Theory to Justify and Prevent Accident Occurance in Construction Sites," Journal of Mechanical and Civil Engineering 6 (March- April 2013): 72-76.

<sup>20</sup> Witoon Simachokdee, op., cit., p. 134.

(1) Social environment

The social environment and traditional practice affect the behavior of each person. They represent in different ways for instance sloppy, negligence, stubbornness, risk taker, stingy, greedy and other characteristics which are rendered by heredity.

The physical features of environment effect on accident is readily appreciated. Although its effect is not that obvious, it is important in terms of social aspect. Social factors are merely considered effective under the following conditions: (1) providing that the behavior socially accepted reduces accidents and (2) providing that such behavior is followed.<sup>21</sup>

(2) Disorder of man

Social environment and mental health are the main causes of disorder of man for example non self-denial, intense emotions, exciting, lacking of prudence and neglected security. These abnormalities lead to unsafety act causes dangerous machine and equipment. The working condition is also unsafe.

(3) Unsafety act and/or dangerous machine and working environment

The examples of personal unsafe operation are standing working with hanging weight, attaching the engine without notification, teasing during working process, removing safeguard machine, etc.

The instances of dangerous machine and working environment are lacking of fence machine, dangerous point and movable point, heavy noise, illumination and no ventilation system.

(4) Accident occurrence

The three factors mentioned above lead to an accident, for example falling from the height, slipping, stumbling, falling of objects, splashing, bumps, pinning and cutting.

(5) Injuries

The sample of body injuries are broken bone, scrubbing, tearing and burns.

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<sup>21</sup> Frank Lees, op.cit., p. 26/7.

## 2) Firenze System Model

Bop Firenze explained the model of accident in the study of causes of accident, that we must study all related components and interactive system. The components are man, machine and environment. Each component effects the decision making and accident occurrence.<sup>22</sup>

### (1) Man

According to manufacturing process, workers need to make a decision to succeed goals. Each decision making has its own hidden risks, therefore, before the workers make a decision, they must be informed adequate and correct information. If they receive adequate and correct information, they can decide in the right way. If inadequate and incorrect information are rendered to workers, high risk and mistake occur. The failure of making a decision can lead to an accident.

### (2) Machine

Machine and Equipment that are used in manufacturing process must be safe and sound. They must not be defective. Moreover, their design must be in accordance with engineering and industry standard. Necessary maintenance during operation should also be carried out. This cause can be prevented by human. However, defective machine and equipment always lead to accident.<sup>23</sup>

### (3) Working environment

Working conditions and environment play a significant role in the manufacturing process. The working environment includes heat, air and light. The working conditions consist of building, stair and working hours. The mistakes of working conditions and environment lead to the problems of workers and machine and equipment. They are significant factors leading to an accident.

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<sup>22</sup> Tanapol Maolanont, "In-depth analysis to Identify accident cause factors: A case study of IRPC Public Company Rayong 2008- 2012," (Master of Science (Environmental Management) Independence Study, Graduate School, National Institute of Development Administration, 2013), p.48.

<sup>23</sup> Faculty of Public, HealthBurapha University, Safety at Work, at <http://ohnde.buu.ac.th/upload/file/uploadd036b812a5a6486c4d1f6ed7deb185af.pdf>, (last visited 5 December 2017).

In conclusion, workers must find information and make sure that they understand it before making a decision on the task. They must clearly understand the information about dangerous that may occur from that kind of work. The adequate and accurate information can help reduce the accident in factory. They can reduce the opportunity of accident occurrence. The factory operators must provide compulsory information to workers by setting safety training course to advise workers and make sure that they clearly understand all information.

Although the workers clearly understand necessary information, the mistake of making decision can occur. Another variable that leads to an accident is stress. When workers feel stressful, the quality of decision making can be decreased. The stress may be physical, or mental which come from work. Each of which has its own effect to worker's decision making. Altogether, they can lead to an accident.

### 3) Model of Accident (Armed Forces of U.S.)

According to safety management in U.S. Arm Force, safety management was developed because of the introduction of modern technology to defense the country. U.S. Arm Force studied safety technology along with production technology. The application of this model represents model of accident. There are three main factors that lead to an accident.<sup>24</sup>

#### (1) Human Error

Human error is described by the exemplification the Work of Reason by the Work on the Psychology. One of findings of this work is that absent-mindedness causes accidents, while in many cases, its consequences are seen as 3not that serious.<sup>25</sup>

Human error is caused by unsafety actions and unsafety conditions which exists or results from worker's working process, for instances body error, lacking of safety training and lacking of safety working motivation.<sup>26</sup>

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<sup>24</sup> Witoon Simachokedee, op.cit., p. 136.

<sup>25</sup> Frank Lees, op.cit., p. 26/6.

<sup>26</sup> Lars Harms-Ringdahl, Guide to safety analysis for accident prevention, 1st ed. (Stockholm: IRS Riskhantering AB., 2013), pp. 29-31.



## (2) System Error

System error is a result of unsuitable design. The improper policy in organization leads to unsuitable design such as save, technology selection, maintenance or failure of design in accordance with academic principle.

## (3) Management Error

The main causes are failures in management, information, technological application and improper working system. These failures come from incorrect information conveying, inadequate safety training and safety working motivation.<sup>27</sup>

## 3. Losses from Accident

According to working accidental statistics since 1987 to 1993, the figure of injured workers had been dramatically increasing, especially in 1993, the figure of injured workers was around 157,303 people. It is divided into death: 980, disability: 5,446 people. This means that the average of worker death rate was three people a day and that of disability was 15 people a day. In consideration of the industrial factory number, the higher of number leads to the higher number of accident. During that period, the rate of injured persons raised up to 1.5 times. Not only did the government lose professional human resources because of occupational unsafety, but also national budget for the compensation of injured workers — which was about 926.51 baht.

The government sector has a duty to supervise and promote safety to labors by enforcing safety measure laws in order to reduce accident from working. The labors are protected from working accident and disease. In the present time, there are 16 laws relating to safety in factory. These laws set rules in relation to safety measures. The factory operator must comply with these laws. In addition, the government sector also researches in order to find other safety measures to prevent working accident and disease. Nevertheless, the government cannot achieve its goal in enforcing the present safety measure.

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<sup>27</sup> Teacher SSRU, Suan Sunandha Rajabhat University, Safety at Work, at [http://www.teacher.ssrุ.ac.th/aran kw/mod/resource/view.php?inpopup=true&id=44](http://www.teacher.ssrु.ac.th/aran%20kw/mod/resource/view.php?inpopup=true&id=44), (last visited 7 December 2017).

In conclusion, the accidental losses from industrial factory is divided into two types.<sup>28</sup>

1) Direct losses

The direct losses mean the amount of money which is paid to an injured person due to an accident, for example medical fee, compensation, funeral fee and life insurance premium.

2) Indirect losses

The indirect losses mean other expenses excluding direct losses which is paid to an injured person from working accident.

Furthermore, in the case of an injured person becoming disable, he also becomes a burden of society - and everyone is jointly responsible. The indirect losses are strongly greater than the direct losses. Someone compared losses and expenses of accident with iceberg. The visible part is above water but the underwater is the invisible part which is largely huge.

#### 4. Accident Prevention<sup>29</sup>

Safety strengthening directly concerns about the cost of production. The safety management needs to be improved with focuses on policy, organization management and planning. They must be controlled to be interacted with production costs accordingly. They can help evaluate safety management and reach the goal to reduce accidents and workplace injuries. Especially in industrial factory, the cooperation between employers, government and employees are needed. Without one of the aforementioned parties, safety management will not be successful. The preventive loss principle is a fundamental principle for accident prevention and control. There are five important principles.

1) Unsafety actions and unsafety conditions or safety management errors

Unsafety actions, unsafety conditions and accident occurrences represent defectives and errors of safety management. Therefore, when the accidents

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<sup>28</sup> Harminder Sandhu, Hawkins Hatton Corporate Lawyer, Direct or Indirect Loss, at <http://www.hawkinshatton.co.uk/resources/HawkinsHatton-DirectorIndirectloss.pdf>, (last visited 7 December 2017).

<sup>29</sup> Witoon Simachokdee, op.cit., p. 138.

occur, unsafety actions and unsafety conditions could not stand alone. The safety management errors have to be considered.

## 2) Unsafety working environment

In some circumstances or some environment, they could cause aggrieved accidents which are identifiable. These circumstances can be prevented by safety measures.

## 3) Safety management

In the organization, the resource allocation is very significant for business operation, for example financial, quality control, etc. The safety management should also be emphasized as equal as another management.<sup>3°</sup>

## 4) Safety keys

The main keys to reach successful occupational safety are management system that determines specified responsibility and evaluation.

## 5) Safety mission

Safety mission is the finding of accidental information along with preventive safety measures. The examiner should promptly identify simple causes, then he must search for actual causes in order to find the preventive safety measures.

There are three accidental preventive measures, which are collectively called 3Es.<sup>31</sup>

### 1) Engineering

Engineering principle is the application of technical knowledge in engineering. It is applied to calculate and design machine and equipment, installation, factory layout, electrical system, light, noise, and ventilation.

#### Engineering Control

(1) In order to limit force exertion, a device is used to lift and reposition heavy objects

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<sup>3°</sup> Charles E. Ulinfun, "Essential Safety Measures for Accident and Injury Reduction in the Workplace," (Ph.D. Dissertation Philosophy in Management, Graduate School, California Coast University, 2002), p.48.

<sup>31</sup> Council of Engineers, Safety Health and Environment, at <http://www.coe.or.th/coe-2/Download/Articles/ME/CH1.pdf>, (Last visited 13 November 2017).

(2) Another way to limit force exertion is to reduce the weight of each load

(3) For the elimination of a long/excessive reach and establishment of neutral working postures, a work table should be repositioned

(4) In order to create a less repetitive tasks, diverging conveyors should be used off a main line

(5) For the elimination of an excessive reach and lean, diverters should be installed on conveyors to direct materials toward the worker

(6) In order to establish neutral postures, tools should be redesigned<sup>32</sup>

## 2) Education

Education principle means to train, educate and advise workers or other persons relating to factory to clearly understand accidental preventive measures. They must be knowledgeable about how accidents occur and how to work safely. Furthermore, new employees should be brought with all current regulations pertaining to their occupations.

## 3) Enforcement

Enforcement principle means to set safety working procedures and controlled measures to enforce workers to comply with. Moreover, there must be safety regulations and punishment if workers break the rules. This makes workers realize how to prevent unsafety actions.

In conclusion, the 3Es principle must be executed at the same time to prevent accidents and to promote efficient safety in factory

## 5. Factors that Promote Safety Activities

There are five significant factors that help promote safety activities.

### 1) Senior Managers

Senior managers must seriously pay attention to occupational safety. They are leaders of an organization. They should take time, support money and show that they seriously pay attention to protect workers from accidental hazards.

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<sup>32</sup> United States Department of Labor, Solutions to Control Hazards, at <https://www.osha.gov/SLTC/ergonomics/controlhazards.html>, (last visited 17 November 2017).

The development of leadership leads the organization towards the creation of training modules based on various methods. The literature review, "Relative Effectiveness of Worker Safety and Health Training Methods" tried to find various methods that effectively enhance worker safety and health by means of training teaching knowledge and reducing negative outcomes such as accidents.<sup>33</sup>

## 2) Written Safety Policy

A written safety policy need to be declared in the working area. The employer should provide safety guidelines and safety regulation manuals before workers start working, especially to those unexperienced workers. It is at senior management level with reviews of progress at the highest level in the organization. This exercise must be responsible by management with strong supported by professional safety managers and specialists.<sup>34</sup>

## 3) Safety Targeting

Safety targeting and tracking must be revised and developed annually. An employer should provide annual evaluation to promote safety activities continuously.

## 4) Annual Evaluation

There should be safety rating as is a significant part of workers that leads to good safety activities.

## 5) Safety Commission

Safety commission should be efficient. It must set a goal, activity to promote workplace safety. It must systematically distributes responsibility in the commission. Finally, it has to evaluate safety activities after they are excuted.

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<sup>33</sup> Brad Kuchnicki, "The State Of Health And Safety Program Management As It Pertains To OSHA In The Funeral Industry: A Formative Analysis," (Master Degree Thesis, School of Science, Eastern Kentucky University, 2012), p. 41.

<sup>34</sup> Roger Pybus, Safety Management: Strategy and Practice, 1<sup>st</sup> ed. (Oxford: Butterworth-Heinemann, 1996), p.73.



## 2.2 Legal Concept of Safety in Factory Law

Safety in factory law was initiated after Industrial Revolution in England. The origin of safety in factory law are the using of machines in production process with unfamiliarity and non-profession on machine process. Another important factors are health of child and woman labour along with working environment and working condition.<sup>35</sup>

There are main four legal concepts of safety in factory law as following:<sup>36</sup>

### 2.2.1 Concept of Human Value

In the age of industrial revolution, working conditions are extremely dangerous. There are many children and woman workers. Loius Rene Villerme is a French statistician who reported in 1840 that the children in the age of six to ten years old had to stand working around 16 to 17 hours per day. They were not provided with sufficient food and suitable uniforms. They started working at five o'clock. After working, they went home by walking late at night. Moreover, at the time of rising development of industry, there are various machines introduced to be used in factory — this resulted in more accidents. In 1844, the English writer, named Engles, recorded the state of people in Manchester, England. It appeared that there were many disabled people. They are like soldiers after the war. These facts appeared to the society since the age of industrial revolution. They encouraged people involved to create some idea that "everybody is equal. Therefore, everyone is entitled to live his/her life with occupational safety and health without any danger".

### 2.2.2 Concept of Employees' Injury should be Responsible by an Employer

According to common law liability, as "master", the employer has a duty of reasonable care towards his employee while the latter is in the course of his employment. Therefore, the employer will remain liable for injury caused by breach of duty. In regard to duties in a practical sense, the employer has obligations to use

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<sup>35</sup> Pybus, Roger, Safety Management: Strategy and Practice, 1<sup>st</sup> ed. (Oxford: Butterworth-Heinemann, 1996), pp. 130-141.

<sup>36</sup> Witoon Simachokedee, op.cit., pp. 131-133.

reasonable care which is to provide a) safe and adequate plant and equipment b) safe premises and/or workplace c) and competent employees and d) safe working system, in all circumstances.<sup>37</sup>

As an employee works for employer's business, an employer is the person who get profit from business operation done by the employee. When the employee gets an accident causing injury, he should be paid compensation and the employer should pay worker compensation throughout the period he is unable to work.

### 2.2.3 Concept of Worker's Compensation

According to the fundamental idea, when operators are injured, disable or death because of occupation, they should be compensated whether they are contributory negligent or not. Then, this idea became the concept of worker's compensation in the present time.

### 2.2.4 Concept of Specialized Safety and Health Law

From the operation of various countries, especially in America and Europe, they were found that there are many problems on the issue of occupational safety and health for instances less of enforceable regulation and limited scope of regulation. The regulation could not be operated in wide range. It created a lot of problems. It did not cover some employers, some employees and some types of industrial factory. The law enforcement was out of date because technology and industry are moving faster than law does.

### 2.2.5 Concept of Occupational Safety Promotion

Industries in Thailand have developed progressively since 20 years ago. Technological manufactures created products continuously. Now they can produce all kind of goods which are high in quality for the purpose of export. Industry has to compete with other countries both in terms of quality and price. The producer has to use modern machine along with complex working system. The factory environment must be always improved. The production process is progressively developed. It creates the growth of economy. In addition, the living standard of Thai people is

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<sup>37</sup> I.T. Smith, Industrial Law, 5<sup>th</sup> ed. (London: Butterworths, 1993), p. 607.

raised up. In contrast, it directly leads to an unemployment problem. The employer must provide adequate preventive measures to prevent accident. That means the cost of production is raised up too.

## 6. Conclusion

In conclusion, legal concept of safety in factory law was originated from the human value. Writer examined and systemized safety laws into three theories consisting of Domino Theory, Firenze System Model and Model of Accident (Armed Forces of U.S.). An accident is actually and mainly caused by man and machine. It need to have management system. It is 3Es principles. They can be applied to prevent and reduce an accident and hazard in workplace. Furthermore, it leads to good factory management and promote overall image of industrial factories in Thailand.

## 2.3 Models of Safety in Factory Law

In the present time, there are two important models of safety in factory law. They have been used for a long period of time. They are the United States Model and the United Kingdom Model. Although, they use different terminologies, they share the same objective which is to provide workers with the protection of working hazard. The U.S. calls it as Occupational Safety and Health, whereas the U.K. calls it as the Health and Safety at Work.<sup>38</sup>

### 2.3.1 United States Model

United States has only one law in relation to safety in factory. There is no Factory Act like Singapore and United Kingdom. Therefore, there is no problem on law enforcement and compliance.

## 1. Introduction

In United States, it had implementing Occupational Safety and Health Act 1970 (OSHA) as safety in factory law. It is a main occupational safety and health law. It was promulgated in 1970 because of the lack of safety law and safety

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<sup>38</sup> Witoon Simachokedee, op.cit., p. 143.

and health problems on workers. In addition, the existed safety laws are not applicable to cover all kinds of factories, indeed they covered only some group of employers or some factories. Therefore, the central government tried their hardest to enact OSHA to be implemented. This created a sense of confidence on safety and health of works in factory.

## **2. Subject Matters**

OSHA provides many provisions that enforce an employer who has one employee or more to comply with the duties according to the OSHA provisions. There is an exemption that the employer is regulated by other laws, for example Mine Safety and Health Act 1977. In such case, the employer is not regulated by OSHA provisions. In addition, OSHA legislates the right and duties of both employers and employees, occupational safety and health measures, safety inspection, law enforcement and offender prosecution.

The Occupational Safety and Health Administration (OSHA) developed the regulations to help organizations create an effective and comprehensive health and safety plan. OSHA prescribes about worker safety in the United States and its territories. Health and general industry safety standards can be found in Title 29 of the Code of Federal Regulations (29 CFR) (OSHA, 2012). Although each industry differs, OSHA has made significant contributions to accommodate the diverse workplaces.

## **3. Law Enforcement**

There are many organization that responsible for safety and health management and enforcement. They are regulated and supervised by Department of Labor and Occupational Safety and Health Review Commission (OSHRC). The OSHRC is independent organization. Further, Department of Health and Human Service directly takes responsibility on study and research and safety and health training program.

## **4. Advisory Committee**

The OSHA appoints National Advisory on Occupational Safety and Health (NAOSH). They are responsible for giving advice to the Ministry of Labor and the Ministry of Health and Human Service. In addition, OSHA is authorized to set other advisory committees, which have a duty to give an opinion and advice to

Division of Occupational Safety and Health Administration — in order to implement Occupational Safety and Health Standard.

### 2.3.2 United Kingdom Model

The researcher will show the United Kingdom Model in four points includes introduction, subject matters, law enforcement and advisory committee.

#### 1. Introduction

The United Kingdom implemented Health and Safety at Work Act 1974 as safety in factory law. It gathers many important occupational safety and health laws. It can help reduce the redundancy of occupational safety and health laws.

#### 2. Subject Matters

The Health and Safety at Work Act 1974 (also called as HSWA, the HSW Act, the 1974 Act or HASAWA) is the primarily a piece of legislation that regulates occupational health and safety in the Great Britain. The Health and Safety Executive, and local authorities (and other enforcing authorities) are in charge of the enforcement of this Act and many other Acts and Statutory Instruments on working environment.<sup>39</sup>

Normally, the HSWA is a criminal law. It empowers an inspector to enforce employers to comply with preventive safety regulations — in the hope that this will prevent employees from hazards. In addition, it initiated a suitable safety management guideline, for instance safety at work policy, safety representatives and safety committees in work place. It appoints duties of employers and employees, safety inspectors and prosecutors.

#### 3. Law Enforcement

On the part of law enforcement, HSWA is regulated and supervised by Department of Employment. There are other related departments which are Department of Environment, which responsible for community pollution control, the

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<sup>39</sup> Health and Safety Executive, Health and Safety at Work Act 1974, at <http://www.hse.gov.uk/legislation/hswa.htm>, (last visited 18 November 2017).



Department of Energy which takes responsibility on working safety concerns oil and gas drilling rigs.

#### 4. Advisory Committee

The HSWA appointed an advisory committee which is called Advisory Committee on Major Hazards.

#### 2.3.3 Conclusion

The United States' and United Kingdom's safety and health legal principles empower the Minister of Labor or the Minister of Environment to create the occupational safety regulations which are applied to all employers under hire of work, except any work subjected to other laws. They are criminal by its nature because there are criminal punishment such as fines and imprisonment. They rendered the power to committees to regulate and supervise on occupational safety law enforcement. Singapore took the United Kingdom's to be a Model. Thailand also uses Singapore's to be a Model. Therefore, both Thailand and Singapore have the same Model as that of the United Kingdom.

### 2.4 Safety in Factory Law in Thailand

In the present time, Thailand has two laws related to safety in factory which regulate occupational safety and health. They are Factory Act B.E. 2535, the Occupational Safety, and Health and Environment Act B.E. 2554.

#### 2.4.1 Factory Act

Thai Factory Act specifies the regulations about hazard prevention and control and promotes safety measures in factory. Each Factory Act varies in accordance with different conditions of Thai society. This results in different rationales behind different Factory Acts 40

## 1. Rationale

Industry is very important for country development. Industry aims to promote effective use of national resources, job creation, raising living standard that leads to economic growth along with national stability. Therefore, industrial factories are very useful for our country. In contrast, if government does not take serious attention to regulate and supervise industrial factories, they shall cause damage to our country including economy, workers safety and health problem and pollutions. The government needs to promulgate Factory Act.

There are many rationales behind the implementation of Factory Act.

- 1) Promoting economy, securities and health.

"The House of Representatives concluded that factories should be controlled to promote economy, securities and health."<sup>41</sup>

- 2) Controlling and protecting industry operation.

"For the purpose of production control and combination of processes along with industrial statistic, there shall be protection provision on some types of factories, an increase of fine, and a decrease of imprisonment."<sup>42</sup>

- 3) Implementing appropriate preventive and protective measures on industry operation in consistence with industry development.

"Because the implementation of Factory Act 1960 and 1969 started long time ago, the present situation is has changed. The new version of Factory Act should be implanted."<sup>43</sup>

- 4) Preventing and eliminating pollutions.

"Some provisions in Factory Act 1969 are unsuitable and non-concise to present situation. In order to eliminate the environmental problems which affect to safety and health and conserve natural resources, the Factory Act 1969 should be amended and punishment should be increased."<sup>44</sup>

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<sup>41</sup> Thai Factory Act B.E. 2482.

<sup>42</sup> Thai Factory Act B.E. 2503.

<sup>43</sup> Thai Factory Act B.E. 2512.

<sup>44</sup> Thai Factory Act B.E. 2518.

5) Raising efficient control measures which exists in Factory Act

"The violations of factory setting, factory operation, and factory extension which are without approval of Factory Department existed. The criminal punishment is unworkable. The court shall have power to render injunction to stop machine installation, pull down machine, suspend factory operation and factory extension. In addition, the court shall have an interim measure before rendering a judgment in order to suspend illegal actions and prevent damages to economy and environment. Furthermore, the manager of juristic person shall be liable to damages."<sup>45</sup>

6) Liberalizing industrial sector

According to the reasons to implement the Factory Act 1992, they could be classified follows:

- (1) Promoting factory operation by classifying factory into three categories
- (2) Improving approval procedures by systematizing approval system and rules and procedures to be efficient and prompt.
- (3) Reducing redundancy of Approval procedures
- (4) Improving factory operation control by declaring industrial operation zone
- (5) Determining the procedure of official authority
- (6) Amending the rate of punishments, Joint responsibility of works in factory such as engineers, architectures and workers with factory operators<sup>46</sup>

In conclusion, the government in each term had to convert a strict control policy to a supervision policy in order to liberalize industrial factory operation and to make it suitable for present economic conditions.

## 2. Structure

The Factory Act 1992 came into effect after it is published in the Government Gazette for 90 days, which was 9th July 1992.<sup>47</sup> It was published in Vol.119, Part 44, Page 62 dated 9th April 1992. Although the act does not apply to

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<sup>45</sup> Thai Factory Act B.E. 2522.

<sup>46</sup> Thai Factory Act B.E. 2535.

<sup>47</sup> Section 2 Thai Factory Act B.E. 2535.

Government factories run by the Government for the purpose of national security and safety, its operation is still regulated by this Act.<sup>48</sup> In regard to the execution of this act, it is under the responsibility of the Minister of Industry. In addition, they also have the power of appointment of the competent officials, issuance of Ministerial Regulations prescribing fees and other activities for the execution of this Act.<sup>49</sup>

This Act was classified into three chapters as follows;

1) Chapter 1 Factory Operation

There are many essential subject matters in this chapter which relate to factory operation. They appear in section 7 to 31. It expresses Categorization of factory, Criteria of factory location and environment, machine, pollution elimination, safety and nuisance managed by Ministerial Regulations, inspection of private factory operation and its subsequent report on behalf of government by competent officials, Factory operation approval, Validation of factory license ( for 5 years from the date of the commencement of factory operation to the end of the year), Renewal of license, Factory expansion, License assignment, Factory movement, Factory operation discontinuance, Industrial zone declaration and Joint consideration.

2) Chapter 2 Factory Supervision

They are specified in section 32 to 44. They are Prescription of number and size of factory, kind, quality and ratio of raw materials, source of material, kind of energy used in factory, Factory operation discontinuance, Accident in factory, Competent official's power, takeover of factory operation by government and Annual fees.

3) Chapter 3 Penalties

They are Fines or imprisonments or fines and imprisonments, Contributory liabilities on architecture and engineering, and Settlement of the case by a committee.

### **3. Safety in Factory Provisions under Factory Act 1992**

The provisions relating to safety in factory appear in four sections. They are section 7, section 8, section 31 and section 32.

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<sup>48</sup> Section 4 Thai Factory Act B.E. 2535.

<sup>49</sup> Section 5.

## 1) Statutes

There are many provisions in Thai Factory Act 1992 concerning the safety in factory. This Act prescribes the general provisions on safety in factory but the details are identified in the Ministerial Regulations and Notification of Ministry. The government empowers the Minister of Industry to prescribe the Ministerial Regulations. It is more convenient than the statutes in the sense of amendment.

### (1) Section 7

"The Minister shall have the power to prescribe in Ministerial Regulations categorizing factory of any type, kind, or size to be as Category 1 factory, Category 2 factory, or Category 3 factory, as the case may be, by taking into an account the necessity for control and supervision, prevention of nuisance, prevention of damage, and prevention of danger in accordance with the severity of impact on the people or environment, by the following categorization:

- (1) Category 1 factory is a factory of the type, kind, and size, capability of factory operation immediately as desired by the factory operator;
- (2) Category 2 factory is a factory of the type, kind, and size, which requires a notice to be made to the license grantor prior to its operation;
- (3) Category 3 factory is a factory of the type, kind, and size, the setting up of which requires a license.

The factory prescribed in the Notifications of the Minister under section 32 (1), when published, shall be Category 3 factory."<sup>5°</sup>

### (2) Section 8

"For the purpose of control on factory operation, the Minister shall have the power to issue Ministerial Regulations requiring factories under any or all categories under section 7 to comply with the following:

- (1) to prescribe criteria relating to factory location, its environment, the nature of its buildings or its interior;
- (2) to prescribe the nature, type, or kind of machinery, equipment or such other things to be used in factory operation;

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<sup>5°</sup> Section 7 Thai Factory Act B.E. 2535.



(3) to prescribe requirements for specialized workers based on the type, kind, or size of factory for the performance of a duty in the factory;

(4) to prescribe criteria to comply with, production process, and acquisition of any equipment or tool to prevent or stop or mitigate the dangers, injuries, or distresses that may happen to people or property in the factory or its vicinity;

(5) to prescribe standards and methods of controlling the discharge of waste, pollutants or anything affecting the environment as a result of the factory operation;

(6) to prescribe the requirements for documents necessary to have available at the factory for the purpose of controlling and inspecting the compliance with the law;

(7) to prescribe the requirements for necessary information relating to the factory operation in which the factory operator shall have in order to furnish from time to time or at a specified period of time;

(8) to prescribe any other requirements for the protection of safety in the factory operation in order to prevent or stop or mitigate the dangers or injuries that may result from the factory operation.

The Ministerial Regulations under paragraph one may exempt the factory of any type, kind, or size from complying with any matter and such Ministerial Regulations may expediently prescribe, by publication in the Government Gazette, any detailed technical matters or any matters influenced by the rapid change under social conditions to be in conformity with the criteria prescribed by the Minister."<sup>51</sup>

This section is within the power of the Minister of Industry to issue the Ministerial Regulation. It is also the main significant provision for controlling, regulating and supervising the factory operation for factory safety protection - in order to prevent or suspend or alleviate the dangers or injuries that may arise from the factory operation. There are many Ministerial Regulations which are issued under this section. The factory operator must conform with the rule of the Ministerial Regulations; if not, he shall be liable to a fine not exceeding two hundred

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<sup>51</sup> Section 8 Factory Act B.E. 2535.

thousand baht under section 45 or to a fine not exceeding twenty thousand baht under section 46.

### (3) Section 32

"For the purposes of the economy, conservation of the environment, the security and safety of the country or the public, the Minister, with approval of the Council of Ministers, shall have the power to prescribe by publication in the Government Gazette, the following:

- (1) to prescribe the number and size of each type or kind of factory allowed to be set up or expanded, or denied in any area;
- (2) to prescribe the kind, quality, ratio of raw materials, sources of raw materials and/or factors or kind of energy to be used or produced in the factory;
- (3) to prescribe the kind or quality of products manufactured in the factory which shall be allowed;
- (4) to prescribe the use of products in factory allowed for certain types of industry, or that all or parts of the products shall be exported."<sup>52</sup>

It appears in chapter 2 of the Factory Act which is factory supervision that The Ministry of Industry shall have the power to prescribe the notification for the purpose of environment conservation, security and safety of the country or the public.

### 2) Ministerial Regulations

According to Section 8, the Minister shall have the power to issue the Ministerial Regulations. There are many Ministerial Regulations in relation to safety in factory issued by the Minister of Industry.

- (1) Ministerial Regulation No. 2 B.E.2535
- (2) Ministerial Regulation on the Prescribing of Safety Measure in Relation to Steam Boiler, Boiler Using Liquid as Conductor and Pressure Vessel in Factory B.E. 2549
- (3) Ministerial Regulation on the Prescribing of Safety Measure in Relation to Ammonia Refrigerating System B.E.2554

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<sup>52</sup> Section 32 Factory Act B.E. 2535.

(4) Ministerial Regulation on the Prescribing of Safety Measure on Electric System in Factory B.E. 2550

(5) Ministerial Regulation on the Prescribing of specific knowledge about the use, transportation and containment of gas in factory B.E.2549.

### 3) Notification of the Ministry of Industry

(1) Notification of the Ministry of Industry No.2 B.E. 2513

(2) Notification of the Ministry of Industry on Fire Prevention and Fire Extinguishment B.E. 2552

(3) Notification of the Ministry of Industry on Safety Protection Measures in Factory Operation in Relation to Working Environment B.E. 2546.

## 4. Penalties

The person(s) who contrary to the safety in factory provisions, they shall be punished according to the following penalties.

### 1) Section 45

"Any person violating or failing to comply with the Ministerial Regulations issued in pursuance to section 8 (1) (2) (3) (4) (5) or (8) or the Notifications of the Minister issued under the said Ministerial Regulations shall be liable to a fine not exceeding two hundred thousand baht."<sup>53</sup>

### 2) Section 46

"Any person violating or failing to comply with the Ministerial Regulations issued under section 8 (6) or (7) or the Notifications of the Minister issued under the said Ministerial Regulations shall be liable to a fine not exceeding twenty thousand baht."<sup>54</sup>

### 3) Section 52

"Any licensee expanding a factory without a license for factory expansion under section 18 shall be liable to imprisonment for a term of not exceeding two years or to a fine not exceeding two hundred thousand baht, or to both.

In the case where the factory under paragraph one is of the type or kind of which its number or size is prescribed for granting or denying of expansion

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<sup>53</sup> Section 45 Thai Factory Act B.E. 2535.

<sup>54</sup> Section 46.

in any area in accordance with the Notifications issued under section 32 (1), the offender shall be liable to imprisonment for a term of not exceeding four years or to a fine not exceeding four hundred thousand baht, or to both."<sup>55</sup>

From the provisions of the Factory Act 1992, we may see that the Factory Act 1992 is both criminal and civil law.

#### 2.4.2 Occupational Safety, Health and Environment Act B.E. 2554 (2011)

Before Occupational Safety, Health and Environment Act (OSHEA) 2011 came to enforce, there was Labour Protection Act B.E. 2541 (LPA). They were repealed by section 3 of Labor Protection Act (No.4) B.E. 2553. Although OSHA came into force, the Ministerial Regulations and the Notifications of the Minister under LPA are still being enforced. It appears in section 74 that "During the period in which no Ministerial Regulation, Notification or Rule for the execution of this Act have been issued, the Ministerial Regulations issued under the provisions of Chapter 8 of the Labour Protection Act B.E. 2541 shall apply mutatis mutandis."<sup>56</sup>

It is filling the gap of law. If the provisions under OSHA does not cover some issues, the former provisions under LPA shall be applicable. If some issues are covered by OSHAS, such provisions under LPA are repealed. So, there are two applicable laws under the supervision of Minister of Labour. It appears in Section 5 under OSHA which provides that "The Minister of Labour shall take charge and control of the execution of this Act and shall have the power to appoint Safety Inspectors, and to issue Ministerial Regulations, Notifications and Rules for the execution of this Act - including to issue Ministerial Regulation(s) prescribing fees not exceeding the rate annexed hereto and the exemption therefrom."

### 1. Rationale

#### 1) Labour Protection Act B.E. 2541

Labour Protection Laws are the regulations which prescribe the rights and duties of employers and employees. It sets a minimum standard in hire of

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<sup>55</sup> Section 52 Thai Factory Act B.E. 2535.

<sup>56</sup> Section 74 Thai Occupational Safety, Health and Environment Act B.E. 2554.

service terms, labour use, and occupational welfares to promote the safety and health of employees. In addition, the employees must get suitable and adequate wages, while employers have workers in production process providing goods and service to society in a long term. In this way, Thailand is ensured with stability and wealth on economy.<sup>57</sup>

The Revolutionary Committee Declaration No.103 has coming into effect long time ago. Some provisions are unsuitable to the current situation and the fact that the labor protection requirements are in form of Notification of the Minister which is not considered as law or regulation. It is suitable to enact Labor Protection Act 1998. In addition, there should be labor protection measures for instance special measures for some workers, no termination on the ground of pregnancy policy, permission of a leave for educational purpose, payment of compensation for workers during discontinued operation, improvement of penalties in accordance with a present condition.

## 2) Occupational Safety, Health and Environment Act B.E. 2554

The reason why this act has been implemented is due to the fact that in the present time, the technology, equipment, machine, tools and chemical are variously introduced to the production process, construction, and service while workers lack of any relevant knowledge and skill. This leads to occupational hazards. Some works are injured, disabled and death. The number of diseases caused by such hazardous working condition dramatically increased. The principles under LPA are general labour protection rules and because of its limited scope, safety management system and strategy could not be introduced to implement efficiently. Due to the benefits of human resource protection which is an important drive for the country's development, the regulation and supervision measure and safety, health and environment management system are needed to be implemented. It is appropriated to enact specific Occupational Safety, Health and Environment Law.<sup>58</sup>

From the two above rationales of each law, LPA aims to protect employees in general, whereas OSHEA specifically aims to prevent and protect

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<sup>57</sup> Kasemsan Wilawan, Expalnation on Labour Laws, 19<sup>th</sup> ed. (Bangkok: Winyuchon Co., 2013), p. 19.

<sup>58</sup> Occupational Safety, Health and Environment Act B.E. 2541.



employees or workers from occupational hazards which is more suitable for present time than LPA's aim.

## 2. Structure

### 1) Labor Protection Act B.E. 2541

Labour Protection Act B.E. 2541 was divided into 16 chapters. It prescribes labour protection in general rules. There are Chapter 1: General Provisions, Chapter 2: Employment of Labour in General, Chapter 3: Employment of Women, Chapter 4: Employment of Young Workers, Chapter 5: Wages, Overtime Pay, Holiday Pay and Holiday Overtime Pay, Chapter 6: Wage Committee, Chapter 7: Welfare, Chapter 8: Occupational Safety, Health and Environment, Chapter 9: Supervision, Chapter 10: Suspension from Work, Chapter 11: Severance Pay, Chapter 12: Lodgment and Consideration of Complaints, Chapter 13: Employee Welfare Fund, Chapter 14: Labour Inspectors, Chapter 15 Delivery of Notices and Chapter 16: Penalties.

The safety in factory provisions were prescribed in Chapter 8. They were canceled by section 3 of Labour Protection Act (No.4) 2010. It was published in the Government Gazette Vol.128, Part 8 a, Page 1 dated 17th January 2011.<sup>59</sup>

Although the safety provisions under Labour Protection Act were derogated, the Transitory Provisions under OSHEA provides that "During the period in which no Ministerial Regulations, Notifications or Rules for the execution of this Act have been issued, the Ministerial Regulations issued under the provisions of Chapter 8 of the Labour Protection Act B.E. 2541 shall apply mutatis mutandis."<sup>60</sup> Consequently, the Ministerial Regulations issued under the provisions of Chapter 8 of LPA are enforceable.

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<sup>59</sup> Pichai Nilthongkhum, Labour Laws (Bangkok: Athataya Millennium Co., 2009), p. 55.

<sup>60</sup> Section 74 Thai Occupational Safety, Health and Environment Act B.E. 2541.

## 2) Occupational Safety, Health and Environment Act B.E. 2554

The Occupational Safety, Health and Environment Act 2008 was classified into eight chapters. They are General Provisions, Administration, Management and Execution of Occupational Safety, Health and Environment, Occupational Safety, Health and Environment Committee, Control, Regulation and Supervision, Safety Inspector, Occupational Safety, Health and Environment Fund, Occupational Safety, Health and Environment Promotion Institute and Penalty.

### 3. Safety in Factory Provisions

#### 1) Labor Protection Act B.E. 2541

There is no safety provision in form of statute under LPA because they were canceled. However, some Ministerial Regulations are enforceable under section 74 of OSHEA as following;

(1) Ministerial Regulation on the Prescribing of Criteria and Method of Conducting Health Check Up of Employees and Forwarding the Results of Health Check Up to Labour Inspector B.E. 2547.

(2) Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment B.E. 2549.

(3) Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment (No.2) B.E. 2553.

(4) Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Work Environment in Relation to Ionizing Radiation B.E. 2547.

(5) Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Confined Space B.E. 2547.

(6) Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Diving work B.E. 2548.

(7) Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Machine, Hoist and Boiler B.E. 2552.

(8) Ministerial Regulation Prescribing the Standard for Administration and Management of Occupational Safety, Health and Environment for Construction work B.E. 2551.

## 2) Occupational Safety, Health and Environment Act B.E. 2541

The safety in factory provisions could be classified into three classes of law. Firstly, they are statutes which prescribes the safety measures to impose the duties of employer in general term including the penalty. Secondly, they are the Ministerial Regulations which are to prescribed with details by the Minister of Labour. Lastly, they are the Notifications of the Ministry of Labour.

### (1) Statutes

There are three sections dealing with the safety in factory which impose the duties of employer to provide safety measures for employees in factory.

#### a. Section 5

"The Minister of Labour shall take charge and control of the execution of this Act and shall have the power to appoint Safety Inspectors, and to issue Ministerial Regulations, Notifications and Rules for the execution of this Act including to issue Ministerial Regulations prescribing fees not exceeding the rate annexed hereto and the exemption therefrom.

The appointment of a safety inspector requires that the qualifications, scope of powers and duties, and conditions on performance of duties shall also be prescribed accordingly.

Ministerial Regulations, Notifications and Rules shall come into force upon their publication in the Government Gazette."<sup>61</sup>

This section is very important because it empowers the Minister to issue the Ministerial Regulation and Notification for imposing the duties of employers that provide safety protection measure for employees. The employers shall

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<sup>61</sup> Section 5 Thai Occupational Safety, Health and Environment Act B.E. 2554.

have duty to conform to the Ministerial Regulations under section 8 which imposes the duty of employers.

b. Section 6

Section 6 under OSHEA provides that "An employer shall have the duty to arrange and maintain the establishment and its employees in safe and hygienic working conditions and environment, and to support and promote the work operation of employees in order to prevent them from harm to life, physique, mentality and health."<sup>62</sup>

The employees shall cooperate with the employer in the execution and promotion of occupational safety, health and environment in order to ensure safety to the employees and the establishment."

This section imposes the general duties of the employer to prevent employees from harm to their life, physique, mentality and health. However, there is no penalty if the employer acts in contrary to this section.

c. Section 8

Section 8 under OSHEA prescribes the duties of employers that "An employer shall administer, manage and execute occupational safety, health and environment matters in conformity with the standards prescribed in the Ministerial Regulations.

In setting the standards under paragraph one, any document or report required to be prepared by the employer shall be examined or certified by a person or a juristic person as prescribed in the Ministerial Regulations.

The employee shall have the duty to comply with the criteria on occupational safety, health and environment in accordance with the standards prescribed in paragraph one."<sup>63</sup>

The employer shall have the duty to administer, manage and execute such action in accordance with the Ministerial Regulations which are issued by the Minister under section 5, otherwise he shall liable to the penalties according to section 53 that is imprisonment for a term of not exceeding one year or to a fine not exceeding four hundred thousand baht, or to both.

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<sup>62</sup> Section 6 Thai Occupational Safety, Health and Environment Act B.E. 2554.

<sup>63</sup> Section 8.

## (2) Ministerial Regulations under OSHEA

a. Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Heat, Light and Noise B.E. 2559.

b. Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Electricity B.E. 2558.

c. Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Dangerous Substance B.E. 2556.

d. Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Fire Prevention and Extinguishment of Fire B.E. 2555.

### 4. Penalties

The penalties are prescribed in Chapter 8 of OSHA. There are imprisonment or fine or both.

#### 1) Section 53

"Any employer who violates or fails to comply with the standards prescribed in the Ministerial Regulations issued under section 8 shall be liable to imprisonment for a term of not exceeding one year or to a fine not exceeding four hundred thousand baht, or to both."<sup>64</sup>

#### 2) Section 54

"Any person who has the duty to certify or examine documentary evidence or report prescribed under the Ministerial Regulations issued under section 8 paragraph two, falsifies a statement in such certification or examination of the documentary evidence or reports, shall be liable to imprisonment for a term of not exceeding six months or to a fine not exceeding two hundred thousand baht, or to both."<sup>65</sup>

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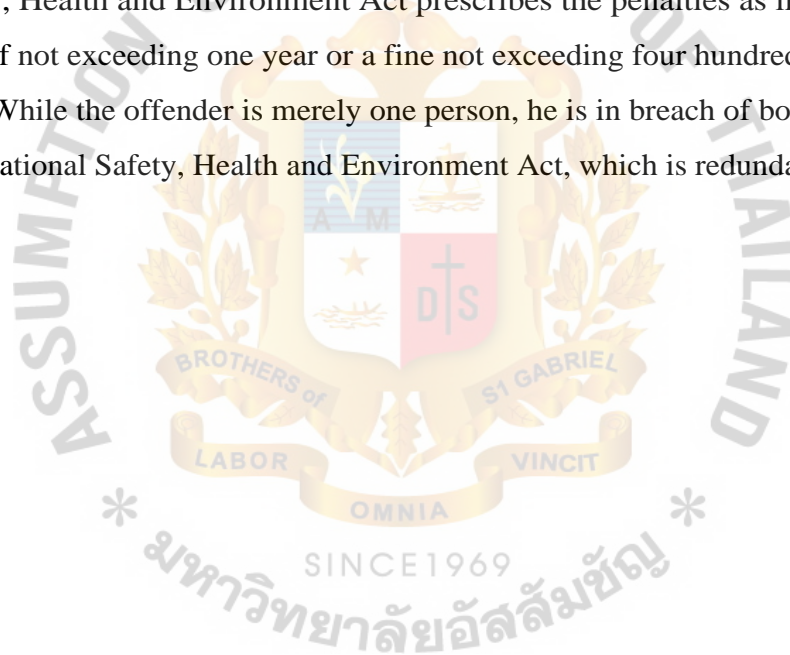
<sup>64</sup> Section 53 Thai Occupational Safety, Health and Environment Act B.E. 2554.

<sup>65</sup> Ibid.



## 2.5 Conclusion

In conclusion, the safety in factory laws are divided into two main laws. The first law is Factory Act B.E. 2535 and Ministerial Regulations. The second law is Labour Laws which are Labour Protection Act B.E. 2541 and Occupational Safety, Health and Environment Act B.E. 2554 and Ministerial Regulations. Those laws prescribe similar issues redundantly. The regulators are different. Whilst the Factory Act 1992 is regulated by the Minister of Industry, labour laws are regulated by Minister of Labour. Moreover, the penalties are also different. Factory Act prescribes the penalty as a fine not exceeding two hundred thousand baht. The Occupational Safety, Health and Environment Act prescribes the penalties as imprisonment for a term of not exceeding one year or a fine not exceeding four hundred thousand baht, or both. While the offender is merely one person, he is in breach of both Factory Act and Occupational Safety, Health and Environment Act, which is redundant.



## **Chapter 3**

### **Safety in Factory Law in Foreign Countries**

This chapter covers safety in factory laws in two foreign countries: Singapore and United States. The writer examines the applicable laws of safety in factory. They are the Factory Act 1973, the Workplace Safety and Health Act 2006 and the Occupational Safety and Health Act 1970.

#### **3.1 Singapore**

Singapore enforced two laws in relation to safety in factory in total. Each of which was enforced in different period. The factory law was enforced prior to 2006. In that year, it was repealed, and the workplace safety law was enforced instead.

##### **3.1.1 Factory Act 1973 (Chapter 104 Revised Edition 1988)**

Before the Workplace Safety and Health Act 2006 comes to enforce, the Factory Act 1973 is the law governing safety in factory. Its statutory provisions remain in force until they are replaced by the Workplace Safety and Health Act 2006. The provision of the Factory Act 1973 may be categorized under the following heads: (1) health, (2) safety, (3) welfare, (4) other matters, and (5) enforcement.<sup>66</sup>

The health provision concern with environmental aspects such as cleanliness, overcrowding, temperature, ventilation, lighting, drainage and underground rooms, sanitary, processes involving lead and other toxic chemical and medical examination.

The safety provisions deal with fencing and other safeguards on machinery and the cleaning of machines, lifting equipment such as ropes, chains, hoists and cranes, floors, stairs and passages, and means of access and escape, work in confined space, fire and explosion, steam boilers and receivers, eye protection and training of young persons.

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<sup>66</sup> Frank Lees, op.cit., pp. 3/7-3/8.

The welfare provision require facilities such as those for drinking water, washing, storing clothes, sitting down and first aid kits.

Further provisions place certain restrictions on the work which can be done and the hours which can be worked by women and young persons, while others deal with matters such as out work, piece work and deduction from wages.

The enforcement provisions require the keeping of a General Register and certain other records. They give the factory inspectors (Chief Inspector and other inspectors) the power to inspect the factory and records, take samples, direct investigation of accidents or diseases and extend notification to dangerous occurrences.

#### 1. Rationale

The Factories Legislation has its roots from the Industrial Revolution and in particular from the cotton mills and the conditions which reform movements to which gave rise. At that time, the spirit of the time favored a laissez faire approach and there was little regulation of industry by the state. During the early part of the century, water power in mills was replaced by steam power and factories were built in towns rather than in the country. As such the workers need to be protected because of the application of new machineries.<sup>67</sup>

#### 2. Structure

Factory Act 1973 (Revised Edition 1998) is divided into eight parts. It mainly focuses on the health, safety and welfare of factory employees. It has been implementing since 1<sup>st</sup> April 1973. It was last amended on 1<sup>st</sup> May 1998. There are twelve parts as follows:

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<sup>67</sup> Frank Lees, Loss Prevention in the Process Industries Vol. 1, 2<sup>nd</sup> ed. (United Kingdom: Reed Educational and Professional Publishing Ltd., 1996), p. 3/5.

### 1) Preliminary

This Part focuses on the application and implementation of Factory Act. It shall be applied to factories run or own the Government.<sup>68</sup> In the case of public emergency, the President may order to exempt from application of this act.<sup>69</sup> Moreover, it prescribes the Minister power to exempt from any provisions in Parts 4, 5, 6 and 7.<sup>70</sup>

### 2) Interpretation

In this part, it provides the definition of many important keywords, for example "factory" and many general interpretation such as "air receiver", "bodily injury", "building", "lifting gear", "prime mover", "pressure vessel", "safe working pressure", "steam boiler", etc. They can help lawyers easily interpret the words in the Factory Act. In addition, they help the court decide when the case come to the court easily.

### 3) Registration of Factories

Part 3 of Singapore Factory Act mentions about the registration of factory. It determines the procedure to register the factory in the stage of competent official. It prescribes the authority of Chief inspector to delete or vary an entry in the register of factories.<sup>71</sup> Moreover, it sets the penalty provisions for an offender in this part on its own.

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<sup>68</sup> Section 2 Singapore Factory Act 1973.

<sup>69</sup> Section 4.

<sup>70</sup> Section 5.

<sup>71</sup> Section 8 and 9.

#### 4) General Provisions relating to Health

In this part, it focuses on the duties of the occupier of factory to be responsible for keeping a factory clean and free from drain effluvia, sanitary convenience or other nuisance.<sup>72</sup> Furthermore, the factory shall not be so overcrowded that it harm the health of the persons working in factory.<sup>73</sup> The factory operator shall provide an adequate and natural ventilation.<sup>74</sup> The light is also important for working condition that a factory shall have suitable lighting in working area.<sup>75</sup> The floor must be equipped with an adequate drainage system.<sup>76</sup> If the factory operator breaches this part, he must be punished under section 88 of Part 11.

This part wants to protect workers in factory from any dirt that may cause occupational health problems by appointing the duties of the occupier of factory.

#### 5) General Provision relating to Safety

Part 5 of Singapore Factory Act are General Provisions relating to Safety. It prescribes the preventive rules to save workers from hazards of machine and equipment which are used in factory. There are many machine and equipment used in factory, for instances prime mover, electric generator, transmission machinery, hoist and lift, lifting gears, steam boiler, air receiver and gas plant. There shall be provisions ensuring that they are in secured state at all the time.

Some kinds of work are relating to dangerous chemical substances. There should be specific provisions for this matter. It was in Section 26 of Singapore Factory Act.

According to preventive safety measures, there is a provision that requires a safety training course for workers. In addition, the unexperienced workers need to be specially trained and supervised properly.

In this part, the writer would like to explain further details in Safety in Factory Provisions Part.

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<sup>72</sup> Singapore Factory Act 1973. Section 12.

<sup>73</sup> Section 13.

<sup>74</sup> Section 14.

<sup>75</sup> Section 15.

<sup>76</sup> Section 15.



#### 6) General Provisions relating to Welfare

In factory, the worker welfare is to raise the standard of workers' living condition at working place. The section under Part 6 goes on to cover matters such supplying drinking water,<sup>77</sup> washing facilities<sup>78</sup> and accommodation for clothing and first-aid kits.<sup>79</sup>

#### 7) Special Provisions relating to Health, Safety and Welfare

Part 7 deals with special provisions relating to Health, Safety and Welfare which does not appear in previous part. Section 59 imposes the practicable measures to protect workers against inhalation of dust, fume or other contaminants and to prevent their accumulation in any workplace.<sup>80</sup> Section 60 deals with toxic substances by providing a person who has knowledge in this matter to control.<sup>81</sup> The protective clothing and appliances are required in section 62.<sup>82</sup>

In this part, it empowers the Chief Inspector to require separate changing and washing facilities<sup>83</sup> and notify industrial diseases.<sup>84</sup> The Minister shall have power to issue regulations in relation to manufacture, machinery, plant, equipment, appliance, process or description of manual labour used in factories<sup>85</sup> and make regulations requiring medical supervision and removal from risk.<sup>86</sup>

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<sup>77</sup> Section 55 Singapore Factory Act 1973.

<sup>78</sup> Section 56.

<sup>79</sup> Section 57.

<sup>80</sup> Section 59.

<sup>81</sup> Section 60.

<sup>82</sup> Section 62.

<sup>83</sup> Section 66.

<sup>84</sup> Section 67.

<sup>85</sup> Section 68.

<sup>86</sup> Section 69.

Another duty of occupier is to appoint safety officer<sup>87</sup>, safety coordinator in factory,<sup>88</sup> safety inspector<sup>89</sup> and safety committee<sup>90</sup> in accordance with the Gazette published by the order of the Minister. In addition, safety management shall be implemented in factory.<sup>91</sup>

#### 8) Special Applications and Extensions

This part is about special applications and extensions. It is for the application of Part 4 and 5 to other premises where a part of building is separated from factories,<sup>92</sup> docks,<sup>93</sup> ships," premises in which steam boilers and air received are used,<sup>95</sup> and premises in airport used for repairing, refueling of air craft<sup>96</sup>

#### 9) Miscellaneous

This part is in relation to the application of Singapore Standards and Codes of Practice published by the Singapore Productivity and Standards Board<sup>97</sup>, the periodical examinations when boiler inspector or approved person is not available<sup>98</sup> and prohibition of deductions from wages<sup>99</sup>

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<sup>87</sup> Section 71, Singapore Factory Act 1973.

<sup>88</sup> Section 71A.

<sup>89</sup> Section 71 C.

<sup>90</sup> Section 72.

<sup>91</sup> Section 71B.

<sup>92</sup> Section 73.

<sup>93</sup> Section 74.

<sup>94</sup> Section 75.

<sup>95</sup> Section 76.

<sup>96</sup> Section 76A.

<sup>97</sup> Section 78A

<sup>98</sup> Section 78.

<sup>99</sup> Section 82.

#### 10) Administration

Part 10 is Administration of the Act. There are many persons that involve in the regulation and supervision. The Commissioners are responsible for the administration of this Act.<sup>100</sup> The Minister shall have the power to appoint a Chief Inspector and other inspectors and officers for the purpose of the Act.<sup>101</sup> The inspector shall have the power: (1) to enter, inspect and examine, during daytime or nighttime, either the whole factory or any of its part (2) to take with him a police officer to apprehend any serious obstruction (3) to require the production of factory records, certificates, notices and documents (4) to conduct an examination and inquiry (5) to require any person found in a factory any information (6) to verbally examine any person supposed to know the facts related to any circumstance, accident dangerous occurrence (7) to take samples of any material or substance found in the factory (8) to require any hospital to provide any information of any person who is injured in the accident and is receiving treatment thereat (9) to take photographs as necessary to record the conditions in factory and (10) to require any person in factory to produce an identity card for inspection. Furthermore, it imposes a penalty for anyone who obstruct the execution of an inspector under this Act. The penalty is a fine not exceeding \$5,000 or imprisonment for a term not exceeding six months.<sup>102</sup>

#### 11) Offences, Penalties and Legal Proceedings

There are both civil and criminal liabilities.

#### 12) General Regulations

This part deals with the power of the Minister. Firstly, the Minister shall have the power to issue regulations generally for carrying out the provisions of this Act in respect of: (1) the lighting, ventilation, temperature, humidity, radiant heat, noise and hygiene in factories, the fixing of such standards, and the means, if any, necessary for the removal of air impurities in workrooms and for the reduction of excessive heat and noise (2) the control and disposal of any toxic or noxious substances, regardless of its material state (3) the usage, control and safety of any machinery or equipment that could be dangerous (4) the fee payment in respect of

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<sup>100</sup> Singapore Factory Act 1973. Section 83.

<sup>101</sup> Section 84.

<sup>102</sup> Section 85.

any matter under this Act (5) the certificate issuance of competent persons being responsible for the operation of steam boilers or internal combustion engines, the examination for such certificates, the board of examiners establishment, the form of such certificates, and the fee payment for such examination and certificate issuance and (6) all any other matters prescribed or to be prescribed in this Act. Such regulations, published in the Gazette, may impose duties on owners, employees and other persons as well as occupiers.<sup>103</sup> Secondly, the Minister shall have the power to appoint the Advisory Council for Industrial Health and Safety.<sup>104</sup> Lastly, the Minister shall have power to amend Schedule which attached in this Act.<sup>105</sup>

### **3. Safety in Factory Provisions**

The safety provisions deal with fencing and other safeguards on machinery and the cleaning of machines, dangerous substances, lifting equipment such as ropes, chains, hoists and lifts, floors, stairs and passages, and means of access and escape, work in confined space, steam boilers, receivers and containers, cast-iron underfired vulcanisers, air receivers, refrigerating plant pressure receivers, pipelines and equipment conveying certain substances, gas plants, fire and explosion, and training of workers and unexperienced workers. However, Singapore Factory Act was repealed by the Singapore Workplace Safety and Health Act 2006 in section 4 "general interpretation of repealed Act" it means the Factories Act (Cap 104), 1998 Ed.) was repealed by the Workplace Safety and Health Act 2006.

### **4. Penalties**

The Factories Act was repealed and the penalties were also abolished. The new penalties are in the Workplace Safety and Health Act.

#### **3.1.2 Workplace Safety and Employment Act 2006 (Revised 2009)**

The scope of the Workplace Safety and Health Act includes the safety, health and welfare of workers at work. It requires everyone involved to take reasonable and feasible steps to ensure the safety and health of workers and others affected by work.

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<sup>103</sup> Section 102 Singapore Factory Act 1973.

<sup>104</sup> Section 103.

<sup>105</sup> Section 104.

## 1. Rationale

The Workplace Safety and Health Act 2006 (WSH) states its purpose forcefully in its preamble. It is to promote safety and high-standard of working conditions to workers. It is related to the health, safety and welfare of workers in workplace. The Workplace Safety and Health (WSH) Act is one of the important parts of a framework to establish good safety habits in all workers, and promote a strong safety culture in workplaces. The WSH Act requires everyone involved to take reasonable and practical steps to ensure the safety and health of workers. The three main principles of the WSH Act are to: (1) decrease risk by requiring everyone involved to decrease their own risk (2) encourage industries to aim for a higher standard of safety and health (3) impose heavier penalties for poor safety management and outcomes.<sup>106</sup>

## 2. Structure

The Workplace Safety and Health Act 2006 (WSHA) is categorized into 11 parts. They consist of the preliminary, interpretation, general duties of persons at workplace, enforcement of the Act by appointing public servants with their power, safety and health management arrangements and offences, penalties and proceedings.

### 1) Preliminary

The WSHA came into effect on 1 March 2006. It applies to private workplaces and workplaces solely or partially owned or occupied by the Government.

### 2) Interpretation

This Part deals with the general interpretation on significant words including employee, employer, occupier, owner, subcontractor, workplace, factory machinery, steam boiler, occupational disease, workplace safety and health auditor, committee, coordinator and officer, etc.

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<sup>106</sup> Ministry of Manpower, Singapore Government, Workplace Safety and Health Act, at <http://www.mom.gov.sg/workplace-safety-and-health/workplace-safety-and-health-act/what-it-covers.html>, (last visited 12 December 2017).



### 3) Administration of Act

This part concerns with the enforcement of the Act. There are many persons concerned. The first person is the Minister of Manpower who has the power to appoint Commissions for Workplace Safety and Health. Other officers include inspectors, authorized officers to public servant. In addition, it mentions the power of Commissioner.

### 4) General Duties of Persons at Workplaces

There are many persons in workplace who have to take responsibilities under this Act including employer, employee, occupier, contractor, subcontractor, and principal, self-employed person, designer, and manufacture, supplier of machine, equipment or hazardous substance for use at work. This Act imposes duties in relation to safety measure to ensure that workplace is in the safe condition.

### 5) Powers of Commissioner

The significant power of Commissioner are to give a remedy or suspend work and certificate of inspection of any work at any workplace.

### 6) Investigations, Inquiries and Reporting of Accidents, Dangerous Occurrences and Occupational Diseases

The Commission has power to assign an inspector for an investigation of any accident, dangerous occurrence or occupational disease. Providing that the occupiers or employers wish to modify, replace, remove or add to any machinery, equipment, plant or article, they must get a consent of the Commissioner.

The Minister may appoint an Injury Committee to inquire any person involved in any accident, dangerous occurrence or occupational disease that occurs in workplace. The employer, occupier and medical practitioner must notify or report to the Commissioner in case of accident, dangerous, or work-related disease occurrences in a workplace.

### 7) Safety and Health Management Arrangement

The workplace needs to have Workplace safety and health officer or coordinator to supervise the workers' safety and health in factory. Their functions, power and duties are in accordance with the Prescription by the Minister.

#### 8) Workplace Safety and Health Council

The Workplace Safety and Health Council consists of a chairman, a deputy chairman and at least ten but not more than 18 other members. It has functions to develop or facilitate the development, to promote the adoption of acceptable practices relating to safety, health and welfare at work. It must devise, organize and implement programs and other activities for or related to providing support, assistance or device to any person or organization in preserving, improving and promoting safety, health and welfare at work. It may issue the Code of practice in workplace for workers.

#### 9) Inspections and Other Power of Enforcement

This part deals with the general power of an inspector including the power to enter, inspect and examine any workplace anytime, take samples of any materials or substances found or discharged from any workplace for analysis or test, examine and secure attendances, etc. The inspector may be a witness at the prosecution under the Act.

#### 10) Offences, Penalties and Proceedings

This part concerns the offences, penalties and legal proceedings. They are many offences against a person who acts in contrary to this Act, including unregistered factories, a failure to provide a reasonable and practicable standard by corporate bodies, arrest of any person accused of any offence under section 15(3) or 21(7). In regard of penalties, there are general penalties, penalties for repeating offenders. In regard of court proceeding, the court shall have the power to order cause of contravention, forgery of the certificates, false entries and false declarations, jurisdiction, the time the Magistrate may try an offence, composition of offences, to modify agreements and to apportion expenses.

#### 11) General

Part 11 is the general part about the relation with other laws, civil liability, and protection from personal liability, exempt workers, workplace and equipment, service of documents, amendment of schedules, regulations and saving and transitional provisions.

### 3. Safety in Factory Provisions

The provisions of safety in factory appear in the Workplace Safety and Health Act 2006 at Part 4. They are the duties of many persons in workplace, which are called responsibilities of everyone involved including employer, principal, occupier, manufacturer or supplier, installer or erector of machinery, employee and self-employee.<sup>107</sup>

Safety Provision	Subject Matter
Duty of occupier of workplace <sup>108</sup>	In workplaces registered or notified as a factory, the occupier is the person who holds the certificate of registration. In all other workplaces, the occupier is the person who has control of the premises, regardless of whether they are the owner of those premises. As an occupier, he must ensure that the following are safe: the workplace, all pathways to and from the place of work and machinery, equipment, plants, articles and substances.
Duties of employers <sup>109</sup>	An employer must protect the safety and health of employees or workers working under the direction of employer, as well as persons who may be affected by their work.  The employer must: conduct risk assessments to identify hazards and implement effective risk control measures; make sure the work environment is safe; make sure adequate safety measures are taken for any machinery, equipment, plant, article or process used at the workplace; develop and implement systems for dealing with emergencies; ensure workers are provided with sufficient instruction, training and supervision so that they can work safely.

<sup>107</sup> Ministry of Manpower, Singapore Government, WSH Act: Responsibilities of Stakeholders, at <http://www.mom.gov.sg/workplace-safety-and-health/workplace-safety-and-health-act/responsibilities-of-stakeholders>, (last visited 15 December 2017).

<sup>108</sup> Section 11 Singapore Workplace Safety and Health Act 2006.

<sup>109</sup> Section 12.

Safety Provision	Subject Matter
Duties of self-employed persons <sup>110</sup>	Self-employed persons are required to take measures to ensure the safety and health of anyone in the workplace who may be affected by their work.
Duties of principals <sup>111</sup>	<p>A principal is any person or organization who engages another person or organization to supply labor or perform work under a contract for service.</p> <p>As a principal, he must ensure that the contractor engaged: is able to perform the work they are engaged for; has made sure that any machinery, equipment, plant, article or process that is used at work is safe; however, if the principals instruct the contractor or the workers on how the work is to be carried out, his duties will include the duties of an employer.</p>
Duties of persons at work <sup>112</sup>	An employee must: follow the workplace safety and health system, safe work procedures or safety rules implemented at the workplace; not engage in any unsafe or negligent act that may endanger himself or others working around him; use personal protective equipment provided to him to ensure his safety while working. He must not tamper with or misuse the equipment.
Duties of manufacturers and suppliers of machinery, equipment or hazardous substances used at work <sup>113</sup>	<p>A manufacturer or supplier must ensure that any machinery and equipment or hazardous substances he provides are safe.</p> <p>He must: provide information on health hazards and how to safely use the machinery, equipment or hazardous substances; examine and test the machinery, equipment or hazardous substances to ensure that it is safe for use; provide results of any examinations or tests of the machinery, equipment or hazardous substances.</p>

<sup>110</sup> Section 13 Singapore Workplace Safety and Health Act 2006.

<sup>111</sup> Section 14.

<sup>112</sup> Section 15.

<sup>113</sup> Section 16.

<b>Safety Provision</b>	<b>Subject Matter</b>
Duties of erector or installer of machinery <sup>114</sup>	An installer or erector must ensure that the machinery and equipment that he have erected, installed or modified is safe and without any risk when properly used.
Offence of breaching duty under this Part <sup>115</sup>	In the event of any contravention of any provision in this Part which imposes a duty on a person, that person shall be guilty of an offence.

#### 4. Penalties

This Act is a criminal and civil law. The person who commits offences under the Singapore Workplace Safety and Health Act 2006, must be fined or imprisoned according to the offences as following;

The tables below outline the maximum penalty for failing to comply with the WSH Act:

(1) Not complying with a Remedial Order or Stop Work Order.<sup>116</sup>

<b>Offence</b>	<b>Maximum fine</b>	<b>Maximum imprisonment</b>	<b>Conditions</b>
Not complying with Remedial Order	\$50,000 and additional fine of \$5,000 for each day of continued offence	12 months	Either or both
Not complying with Stop-Work Order	\$500,000 and additional fine of \$20,000 for each day of continued offence	12 months	Either or both

<sup>114</sup> Section 17 Singapore Workplace Safety and Health Act 2006.

<sup>115</sup> Section 19.

<sup>116</sup> Ministry of Manpower, Singapore Government, WSH Act: liabilities and penalties at <http://www.mom.gov.sg/workplace-safety-and-health/workplace-safety-and-health-act/liabilities-and-penalties>. (last visited 14 December 2017).



(2) General penalties for offences where no penalty is expressly provided in the WSH Act, the penalties are as follows:<sup>117</sup>

Type of offender	Maximum fine	Maximum imprisonment	Conditions
Individual	First conviction: \$200,000 Repeat offender: \$400,000	2 years	Either or both
Corporate body	First conviction: \$500,000 Repeat offender: \$1 million	N/A	N/A

Note: If the previous offence caused the death of a person, any subsequent offence that causes the death of another person will have a maximum fine that is doubled.

### (3) Composition fines

For offences, instead of prosecution in Court, the Commissioner may consider compounding the offences. Offences may be compounded to a sum not more than half the maximum fine prescribed for the offence or \$5,000, whichever is lower.

## 3.2 United States

In United States, there is only one law deals with safety in factory which is Occupational Safety and Health Act 1970.

### 3.2.1 Occupational Safety and Health Act 1970

The Occupational Safety and Health Act 1970 (OSHA) is the framework Act. It provides that the Secretary of Labor must issue safety standards, inspect

<sup>117</sup> Ministry of Manpower, Singapore Government, Ibid.

workplaces and assess penalties. There is a separate commission which deals with the violations of the Act.<sup>118</sup>

## 1. Rationale

The Congress found that the personal injuries and illnesses that arise from work bring tremendous damages, in terms of production lost, wage loss, medical expense and disability expenses. It needs to exercise its power in a way of providing general welfare, safe working conditions and human resource preservation.<sup>119</sup> The Congress passed the law called Public law 91-596, which is officially known as the Occupational Safety and Health Act of 1970 and unofficially known as the Williams-Steigers Act. It states its purpose quite forcefully in its preamble. It is to ensure safe and good working conditions for workers.<sup>120</sup>

## 2. Structure

### (1) General Duty Clause

The duty clause is in section 5 of OSHA. It imposes the duty of both employer and employee. The employer should make sure that the workplace is hazard-free. In addition, the employer shall comply with occupational safety and health standards set in the Act<sup>121</sup> - and so do the employees as it also imposes the duties against them.<sup>122</sup>

### (2) Law Enforcement

#### a. Department of Labor

The role of the Department of Labor by Secretary<sup>123</sup> is to publish OSHA standards, to enter factories to make inspection, to prescribe regulations for record keeping, to setup and supervise programs for the education and employee training and employer's personnel, to develop and maintain the figures of

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<sup>118</sup> Frank Lees, op.cit., p. 3/35.

<sup>119</sup> Section 2 of the Occupational Safety and Health Act 1970.

<sup>120</sup> David S. Gloss, op.cit., p. 39.

<sup>121</sup> Section 5 (a) United States Occupational Safety and Health Act 1970.

<sup>122</sup> Section 5 (b).

<sup>123</sup> Section 6.

safety and health and to make grants to the states by identifying needs, developing state plans, monitoring state plans and canceling plans.<sup>124</sup>

b. Department of Health and Human Service

There are many role on Department of Health and Human Services including researching, proving OSHA personnel, training OSHA personnel and establishing the National Institute for Occupational Safety and Health which is responsible for developing OSHA health standards, education and training, investigation, making and publishing an annual report.<sup>125</sup>

c. National Advisory Committee

A National Advisory Committee on Occupational Safety and Health is provided in the act for advising, counselling and giving recommendations to the secretary of labor and to secretary of health and human services on related matters.<sup>126</sup> The committee is required to include representatives of management, labor, public health and occupational safety and health professions.<sup>127</sup>

d. Inspector

An OSHA inspector<sup>128</sup> shall have the power to enter and inspect any workplace and its environment during regular working hours. He may inspect and investigate any pertinent conditions: inspect and equipment, structures and machines; and privately question any person who is relevant to the inspection.<sup>129</sup>

f. Compliance Office

As a compliance office, it aims to enforce the standards issued under the act. They require knowledge of the standards. The principal standard that compliance officers used is the General Industry Standard (29 CFR 1910).<sup>130</sup>

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<sup>124</sup> David S. Gloss, op. cit., p. 42.

<sup>125</sup> Ibid.

<sup>126</sup> David S. Gloss, Ibid.

<sup>127</sup> Section 7 United States Occupational Safety and Health Act 1970.

<sup>128</sup> Section 8.

<sup>129</sup> David S. Gloss, op. cit., p. 45.

<sup>130</sup> Ibid., p. 46.

### (3) Penalties

Both civil and criminal penalties are provided in the Act. The writer shows them in 3.2.4.

## 3. Safety in Factory Provisions

The occupational safety and health standards are stated in section 6. The secretary of labor is required to develop and adopt mandatory safety and health standards. These must be observed by employers covered by the act in section 5.

The "occupational safety and health standard is a rule which requires conditions, or the adoption or use of one or more practices, means, methods, operations, or processes reasonably necessary or appropriate, to provide safe or healthful employment and place of employment."

There are three types of standards authorized: (1) interim standards, (2) emergency standards and (3) permanent standards.

The secretary of labor was required to issue interim standards within two years from the enactment of the act. They were made up of national consensus standards and established federal standards. Consensus standards are issued by the American National Standards Institute (ANSI) when they are developed and approved according to its procedure. Such standards welcome various views. Representatives of Industry, labor, insurance companies, and professional organizations reaching an agreement on the contents of a standard. The ANSI standards are largely intended to establish the best practice for the subject covered. They are not intended to have the force of law, although some ANSI standards were published as regulations by the governmental agencies before OSHA. Established federal standards are any occupational safety and health standards set up by agency of the United States under the Congress upon the enactment of OSHA. This include standards established under the following acts: (1) Walsh-Healy Public Contracts Act, (2) Maritime Safety Act, (3) Service Contract Act of 1965, (4) Construction Safety Act, (5) Arts and Humanities Acts and (6) Longshoremen's and Harbor Workers' Compensation Act.

Since OSHA develops effective safety and health standards, those previously issued under the listed acts will be superseded. On 29 May 1971, the first interim standards package (Title 29, Chapter 17, Part 1910-more commonly known as 29 CFR 1910 General Industry Standard) was issued and became effective on 27

August 1971. Emergency temporary standards has an immediate effect upon the publication in Federal Register, regardless of the rule-making provisions of the Administrative Procedure Act.

#### 4. Penalties<sup>131</sup>

##### Penalties for OSHA Violations<sup>132</sup>

Violation	Penalty required	Maximum civil penalty (\$)	Maximum criminal penalty
De minimus	No	-	-
Non-serious	No	1,000	-
Serious	No	1,000	-
Willful	No	10,000	-
Willful resulting in death	Yes	10,000	6 months
Willful resulting in death, 2 <sup>nd</sup> conviction	Yes	20,000	12 months
Repeated	No	10,000	-
Falsifying records	Yes	10,000	6 months
Not posting	No	1,000	-
Assaulting compliance office	Yes	5,000	3 years

### 3.3 Conclusion

From the study of Singapore law related to safety in factory, we are able to see that there is only one law governing the factory operator and/or employer. The applicable law related to safety in factory is the Workplace Safety and Health Act 2006. It is controlled, regulated and supervised by the Ministry of Manpower. The Minister of Manpower shall have power to issue Ministerial Regulations.

<sup>131</sup> Section 17 United States Occupational Safety and Health Act 1970.

<sup>132</sup> David S. Gloss, op.cit., p. 49.



From the study of United States law in relation to safety in factory, we see that there is one law applicable which is the Occupational Safety and Health Act 1970. The main regulator is the Department of Labor.

Consequently, there is no problem on the redundancy of law enforcement and law compliance.



## **Chapter 4**

### **The Analysis of Laws relating to the Factory Safety**

The laws and regulations are the measures to control, regulate and supervise the Factory. They should be clear and in the same direction. The government officials are the competent person who regulates and supervises the factory operation to be in conformity with the laws and regulations related to safety in factory, which were imposed by the government. The factory operation may cause the losses to life and property of workers who are in the factory. In addition, the laws impose the power of the government officials and the punishing measures against factory operators in many laws. They require the factory operators to be controlled, regulated and supervised by many different government departments overlapping with one another - which are unavoidable.

The study of regulations according to safety in factory examines the two laws including Factory Act B.E. 2535 (1992) and the Occupational Safety, Health and Environment Act B.E. 2554 (2011). Moreover, this Independent Study examines the Ministerial Regulations and the Notification of the Ministry which were issued by the Ministers under such two Acts.

In Chapter 4 the writer is going to analyse laws relating to the safety in factory. The analysis is divided into two parts. Part 1 is about organizations, departments and persons who are authorized and obliged to control, investigate and regulate factory operations to be in accordance with laws. This also includes the ministers who are in charge and control of the execution of the Acts and authorized officials appointed by the Ministers of various departments. Part 2 analyses the factory operator's duty found in Factory Laws as well as Employer's duty found in Occupational Safety, Health and Environment Act B.E. 2554 whereas these two persons are the same - but the person must comply with rules, procedures, and factory safety measures of both laws as followed: Location, Environment, Appearance of Building, Interior of the Factory, Unventilated and Confined Space, Hospital or First Aid Room in factories, Machinery, Equipment or any material to be used in the factory, Electricity System, Lift, Boiler, Safety for Factory Operation, Work Environment (Heat, Light and Noise), Fire

Extinguishment System in Factory Building, Automatic Fire Extinguishment System, and Fire Prevention and Fire Extinguishment Training.

#### **4.1 Organizations, Departments and Persons who are Authorized and Obligated to Control, Investigate and Regulate Factory Operations to be in Accordance with the Act**

This part deals with the minister who is in charge and control of the execution of the act and authorized official.

##### **4.1.1 Minister who is in Charge and Control of the Execution of the Act**

The Factory Act B.E. 2535 provides the measurements for safety in factory by issuing ministerial regulations. These regulations prescribe rules and procedures which are factory operator's duty in accordance with the Ministerial Regulation No.2 B.E.2535 and that of minister who is in charge and control of the execution of the Factory Act B.E. 2535.<sup>133</sup>

The Occupational Safety, Health and Environment Act B.E. 2554 also prescribes the measurement for safety in workplace namely: The Ministerial Regulation on the Prescribing of the Standard for Administration and Management of Occupational Safety, Health and Environment (No.2) B.E. 2553, in which the Minister of Labour is a person who takes charge and control of the execution of the Occupational Safety, Health and Environment Act B.E. 2554.<sup>134</sup>

In regards to the factory's administration, safety is included according to the two acts aforementioned. This results in a factory operator, in accordance with the Factory Act B.E. 2535 who is also an employer in accordance with the Occupational Safety, Health and Environment Act B.E. 2554, being required to comply with official sectors taking charge and control of the execution of two laws issued by different ministries and official sectors. Also, the overall contents of the ministerial regulations issued by virtue of the two Acts are different and distinct from each other, yet there are some similar contents such as those talking about safety in factory.

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<sup>133</sup> Section 6 Thai Factory Act B.E. 2535.

<sup>134</sup> Section 5 Thai Occupational Safety, Health and Environment Act B.E. 2554.

It is therefore seen that this is the repetitive assignments of ministers who takes charge and control of the execution of the Acts via the issuance of ministerial regulations; to regulate person, place and time at the same time - wasting time and government budget spent by these two ministries.

From the writer's opinion, the reason why these two ministries are still in charge and control on the same matter of safety in factory is that they cannot agree on the matter of who will be the only ministry being solely in charge and control of the execution for the Acts, since they are both afraid of losing this government budget.

#### 4.1.2 Authorized Officials

##### The Factory Act B.E. 2535

The Factory Act B.E. 2535 provides that there shall be an official appointed by the Minister of Industry and he shall be authorized to control, investigate and regulate safety in factory in accordance with many provisions. For example Section 35 empowers an official to "enter a factory or building, place or vehicle, suspected to engage in a business, to inspect the condition of the factory or the machines, to take specimens of products suspected of their quality in reasonable quantity for inspection of their quality, to inspect, search, detain, seize or attach the products or any relevant articles in case where there is a reasonable ground to suspect that engagement in a business of the factory may cause harms to the persons or property in the factory or its vicinity, or to summon in writing any person to testify or to submit any document or object for consideration."<sup>135</sup> Section 36 empowers that "government officials not lower than level 4 of position classification shall have the power to arrest such persons in order to hand over to an inquiry official for further legal actions."<sup>136</sup> Section 37 empowers the authority to order such person to stop the violating act.<sup>137</sup>

##### The Occupational Safety, Health and Environment Act B.E. 2554

The Occupational Safety, Health and Environment Act B.E. 2554, Chapter 5 prescribes the Safety Inspector appointed by the Minister of Labour that he

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<sup>135</sup> Section 35 Thai Factory Act B.E. 2535.

<sup>136</sup> Section 36.

<sup>137</sup> Section 37.

shall have the power to regulate the execution of the Act. Section 35 provides that the Safety Inspector shall have the power "to enter into an establishment or office of an Employer during working hours or when there is an incident, inspect or record image or sound on working conditions concerning occupational safety, health and environment, use tools to measure or inspect machinery or equipment in an Establishment, collect any sample materials or products for analysis regarding safety, enquire about fact or investigate any matter within the scope of power and to summon the concerned persons for clarification including to inspect or request for submission of relevant evidencing document." Section 36 prescribes that "the Safety Inspector shall have the power to order a person to stop an act violating or failing to comply with the Act or if upon permission of the Director-General, the Safety Inspector has the power to order to stop the usage of machinery or equipment, building, or premise."<sup>138</sup>

It is seen that the two legislations empower the government officials to have the same power and duty, but only in different titles of legislation. According to the Factory Act B.E. 2535, officials are under the control of Ministry of Industry, and the Ministry of Labour. Hence, these are provisions repetitively prescribing the power and duty of the government official in the same matter — which wastes government's human resources and importantly government budget spent by these organizations.

#### **4.2 Provisions about Safety Prescribing a Factory Operator's Duty**

In regards to safety in workplace, the related provisions prescribe the factory operator's duty to comply with acts, ministerial regulations, and notification of the ministry for maintaining safety, preventing accidents that cause damages to workers, and preventing loss of life and properties during working. It is shown that there are many pieces of legislations that overlap one another. The writer categorizes them into four as following:

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<sup>138</sup> Section 35 Thai Occupational Safety, Health and Environment Act B.E. 2554.



#### 4.2.1 Location, Environment, Appearance of Building, Interior of the Factory

This part deals with confined space, hospital or first aid room in factory and toilet, urinal and wash room in an emergency.

##### 1. Confined Space

The Factory Act B.E. 2535

The Notification of Ministry of Industry No.2 B.E. 2513 Clause 24 prescribes that there shall be a suitable ventilation system. The space for doors, windows, and vents combined, excluding those adjacent between each room, must not be less than one tenth of the room space, or there is not less than 0.5 cubic meter of air ventilation per minute per worker.<sup>139</sup> Clause 25 prescribes that in an occasion that workers have to work in a place lacking of air or ventilation, a respirator or a ventilator shall be provided during that working period in order to facilitate workers under such condition, and there should be at least one person positions at the exit for rescue service.<sup>140</sup>

The Occupational Safety, Health and Environment Act B.E. 2554

As the Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Heat, Light and Noise B.E. 2559, Clause 12 prescribes that "in case an employee has to work in a dark, opaque place, or a place of limited space; the employer shall arrange for the employee to wear a safety hat equipped with lighting device."<sup>141</sup>

It is seen that the Factory Act B.E. 2535 prescribes the arrangement of the ventilation of the buildings and all kinds of factories (respirator and ventilator) suitable for working in a place lacking of air and ventilation only occasionally; it does not state about the case which the workplace lacks of air and ventilation all the time - as in the type, quantity and quality of the respirator or ventilator. In contrast, according

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<sup>139</sup> Clause 24 Notification of Ministry of Industry No.2 B.E. 2513.

<sup>140</sup> Clause 25.

<sup>141</sup> Clause 12 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Heat, Light and Noise B.E. 2559.

to the Occupational Safety, Health and Environment Act B.E. 2554, there are provisions stating about the arrangement of personal safety equipment in all occasions, including the occasion under the Factory Act B.E. 2535, but excluding the provisions stating that the compliance to the Occupational Safety, Health and Environment Act B.E. 2554 is deemed to be that of the Factory Act B.E. 2535 too. By having these two Acts prescribing, although not in an exact wording, in the same matter and place, is therefore considered as having two repetitive legislations — causing repetitive duties of a factory operator to comply with the same matter in both Acts.

## **2. Hospital or First Aid Room in Factory**

The Factory Act B.E. 2535

The Notification of Ministry of Industry No.2 B.E. 2513 Clause 30 prescribes that all kinds of workplaces shall provide first aid kit that is clean and ready to be used at any time.<sup>142</sup>

The Occupational Safety, Health and Environment Act B.E. 2554

According to the rules in the Ministerial Regulation on Labour Welfare in Workplace B.E. 2548, Clause 2 provides that in a workplace of employees, an employer shall provide necessary kit for first aid and medical service;

(1) A workplace with more than 10 employees, an employer shall provide medical supplies and medicine for first aid at least for 29 items.

(2) a workplace with more than 200 employees at the same period of working time shall provide;

(a) medical supplies and medicines for first aid issued in (1),

(b) a medical room with at least one examination couch, medical supplies and medicine issued in (1) as needed and sufficient for primary healthcare,

(c) one routine registered nurse at least during working time,

(d) one medical doctor for examination at least twice a week and the total of working time shall not less than six hours per week.

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<sup>142</sup> Clause 30 Notification of Ministry of Industry No.2 B.E. 2513.

(3) a workplace with more than 1,000 employees at the same period of working time shall provide; three times a week and the total of working time is not less than twelve hours per week,

(a) medical supplies and medicines for first aid issued in (1),  
 (b) a medical room with at least one examination couch,  
 medical supplies and medicine issued in (1) as needed and sufficient for primary healthcare,

(c) two routine registered nurse at least during working time,  
 (d) one medical doctor for examination at least three times a week and the total of working time shall not be less than twelve hours per week.

(e) a vehicle that is in active service to transport an employee to be cured in case of emergency.<sup>143</sup>

It can be seen that in the case of a workplace with no more than 10 employees, in regards to first aid kit and medical service, the Factory Act B.E. 2535 applies specifically. However, in the case of a workplace with more than 10 employees, both Factory Act B.E 2535 and Occupational Safety, Health and Environment Act B.E. 2554 apply; the applications of both Acts are repetitive. The only difference between the two is that more details are given in the latter one; that there is a minimum higher standard that an employer is required to comply with. As a result, the provisions in the Factory Act B.E 2535 are barely enforced. In addition, those provisions are too broad and so they can be interpreted without any scope, resulting in difficulties faced by a factory operator to comply with. This is different from the Occupational Safety, Health and Environment Act B.E. 2554, which is clear and certain. Therefore, the writer believes that the Occupational Safety, Health and Environment Act B.E. 2554 should be the only Act setting the minimum standard for this matter.

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<sup>143</sup> Clause 2 Ministerial Regulation on Labour Welfare in Workplace B.E. 2548.

### 3. Toilet, Urinal, wash Room in an Emergency

The Factory Act B.E. 2535

The Ministerial Regulation No.2 B.E. 2535, issued pursuant to The Factory Act B.E. 2535, Clause 5 briefly states that there minimum standard is one toilet for 15 workers or less, two toilet for 40 workers or less, three toilet for 80 workers or less, and additional one toilet for additional 50 workers. A factory of more than 15 male and female workers altogether shall provide a separate toilet for female worker according to prescribed ratio as followed:

Number of Worker	Number of Toilet (Minimum)
1-9	1
10-24	2
25-49	3
50-100	5

A factory of more than 100 workers shall provide a toilet at the ratio of one toilet to 30 workers, and the additional of 30 is treated as 30. In case which there is a female worker, a separate toilet shall be provided as well.<sup>144</sup>

### Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on Labour Welfare in Workplace B.E. 2548, Clause 1 prescribes that in a workplace of employees, an employer shall provide wash room and toilets as the layout and number prescribed in the Building Control Law and other related laws that its housekeeping are in daily hygienic condition. An employer shall provide separate male and female wash rooms and toilets. In case of a handicap employee, a separate and specific toilet shall also be provided. It can be seen that the Act does not clearly prescribe the rules, instead it refers to another related legislation namely: Building Control Law, Occupational Safety, Health and Environment Act B.E. 2554, and another local legislation which is public health law.<sup>145</sup>

<sup>144</sup> Clause 5 Notification of Ministry of Industry No.2 B.E. 2513.

<sup>145</sup> Clause 1 Ministerial Regulation on Labour Welfare in Workplace B.E. 2548.

In regards to toilet, urinal, and wash room, the Building Control Law does not either prescribe either generally or specifically, whilst public health law does so in the form of local regulations such as regulations, rules, or announcement of Bangkok Metropolitan Administration in relation to business that is distasteful or harmful to health — which prescribes the ratio of toilet, urinal or sink to the number of worker at 1 to 10. In case of a female employee, a separate toilet shall also be provided. In case of a storey building, at least one wash room, one toilet, and one sink shall be provided.

From the analysis, it is found that both Factory law and public health law prescribe rules which are the same matter of toilet, urinal, and wash room which are considered as repetitive. However, there are some core contents that are different or even conflicting, leading to difficulties in such compliance; because the compliance of one law could lead to the violation of another. Even worse both laws are on the same hierarchy of laws: act, and there is no provision specifically stating about the case of repetition or confliction of laws.

An example of the confliction between both laws are the provisions about the ratio of worker to toilet. Under the Factory Act B.E. 2535, the ratios are one toilet for 15 workers or less, two toilet for 40 workers or less, three toilet for 80 workers or less, and additional one toilet for additional 50 workers. In contrast, under the Occupational Safety, Health and Environment Act B.E. 2554 in which the public health law is applied, the ratios are one toilet for 1-9 workers, two toilet for 10-24 workers, three toilet for 24-49 workers, and 5 toilet for 50-100 workers.

#### 4.2.2 Machinery, Equipment, or any material to be used in the Factory

In this part, researcher examines electrical system in factory, machinery, lift and boiler.

##### 1. Electrical System in the Factory

###### 1) Organizations Authorized to Certify the Electrical System

The Factory Act B.E. 2535

The Ministerial Regulation No.2 B.E.2535 Clause 6(11) prescribes that "electrical system, electricity connection system, and installation of electric motor, electric switch, and other electric equipment shall be done in



accordance with acceptable technical requirement and certified by a licensed professional engineer or a private body designated by the Minister of Industry as published in the Government Gazette."<sup>146</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Electricity B.E. 2558 Clause 14 prescribes that in regards to the installation of electrical equipment, an employee shall follow the standard of Engineering Institute of Thailand. Providing there is no such standard, the one set by the Provincial Electricity Authority (PEA) shall be followed.<sup>147</sup>

In the aforementioned case, the word "electrical equipment" found in the Occupational Safety, Health and Environment Act B.E. 2554 should mean electrical system, electrical wiring, and installation of electrical engine, electric switch. Electrical equipment under the Factory Law shall mean the same. As, the two laws prescribe this same matter, it is considered as repetitive provisions, not an exception. Nevertheless, those provisions that prescribe differently; the Factory Law prescribes that there shall be a certification from a professional engineer, whereas the Occupational Safety, Health and Environment Act B.E. 2554 merely prescribes that the standard set by the Engineering Institute of Thailand shall be followed without any certification. Therefore, this is the case of repetitive provisions stating on the same matter, but with different details; which leads to having two standards. If an employer is to follow one standard, he might at the same time violates another, and these two laws are in the same hierarchy of laws.

## 2) Investigation and Certification of Electrical System safety

The Factory Act B.E. 2535

The Ministerial Regulation on the Prescribing of Safety Measure on Electrical System in Factory B.E. 2550 Clause 5, that is issued by pursuant to the Factory Act B.E.2535, prescribes that there shall be an investigation

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<sup>146</sup> Clause 6(11) Notification of Ministry of Industry No.2 B.E. 2513.

<sup>147</sup> Clause 14 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Electricity B.E. 2558.

and certification of the electrical system. The document shall also be conforming to the formality announced by the Ministry of Industry.<sup>148</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the administration and management of safety, hygiene, and environment in works involving electricity B.E. 2558 Clause 12 prescribes that there shall be an investigation and repair of the electrical system and electrical equipment, as well as a record of such investigation and certification results in conformation to the rules and procedures announced by the Minister of Labour.<sup>149</sup>

In the above case, it is found that a factory operator or an employer is required to produce documents in relation to the investigation and safety certification at least for two forms because of two different Ministers who are in charge and control of the execution of the acts. This results in two repetitive duties of a factory operator or an employer deriving from repetitive provisions.

### (3) Electrical Circuit

The Factory Act B.E. 2535

The Ministerial Regulation on the Prescribing of Safety Measure on Electrical System in Factory B.E. 2550 that is issued by pursuant to the Factory Act B.E. 2535, prescribes that there shall be a drawing demonstrating the installation of electrical system in a factory and it shall be certified by an engineer or other persons announced by the Minister.<sup>150</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Electricity B.E. 2558 Clause 5 prescribes that a plan of electrical circuit

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<sup>148</sup> Clause 5 Ministerial Regulation on the Prescribing of Safety Measure on Electrical System in Factory B.E. 2550.

<sup>149</sup> Clause 12 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Electricity B.E. 2558.

<sup>150</sup> Clause 5 Ministerial Regulation on the Prescribing of Safety Measure on Electrical System in Factory B.E. 2550.

shall be, certified by an engineer or the Provincial Electricity Authority, available for an investigation by an official.<sup>151</sup>

It can be seen that the Factory Act B.E. 2535 uses the word "drawing demonstrating the installation of electrical system", while the Occupational Safety, Health and Environment Act B.E. 2554 uses "a plan of electrical circuit". Although these two are worded differently, they share a similar meaning. Therefore, these reflect repetitive provisions that the same word should be used to avoid confusion.

Furthermore, the Factory Act B.E. 2535 prescribes that the drawing shall be certified by an engineer or other persons announced by the Minister, albeit there is no announcement in such matter until now. The Occupational Safety, Health and Environment Act B.E. 2554 also prescribes that the electrical circuit shall be certified by an engineer or the Provincial Electricity Authority — which is different. The certification by the Provincial Electricity Authority might cause a problem; the certification by the Provincial Electricity Authority which conforms to the Occupational Safety, Health and Environment Act B.E. 2554 still violates the Factory Act B.E. 2535. So these similar provisions state about the same matter, but in different details. Also, since the two Acts each prescribes that there shall be an investigation by an official, there will be two sets of officials which are from different ministries. So, these are two repetitive duties.

## 2. Machinery

The Factory Act B.E. 2535

The Ministerial Regulation No.2 B.E. 2535 Clause 6 issued by pursuant to the Factory Act B.E.2535, prescribes that machinery must be strong, steady, and appropriate. It shall be certified by a licensed professional engineer or a private body specified in the Government Gazette. It shall be equipped with

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<sup>151</sup> Clause 5 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Electricity B.E. 2558.

instrument that prevents danger potentially arises from moving parts of machinery, as necessary - and shall be investigated by an official.' <sup>52</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Machine, Hoist and Boiler B.E. 2552 Clause 5 prescribes that the assembly, installation, repair, and operation of machinery shall be certified by a licensed professional engineer in accordance with the rules announced by the Director-General - and the evidence shall be maintained for the investigation by the Labour Inspector.' <sup>53</sup>

From the analysis, the installation, repair, and operation that shall be investigated by the Labour Inspector affiliated to the Ministry of Industry, is a considered as a provision empowering two ministries on the same duty. Such investigation wastes government budget. There is also no provision stating that the investigation by one ministry shall be deemed as that of another.

### 3. Lift

The Factory Act B.E. 2535

The Ministerial Regulation No.2 B.E.2535 Clause 5(11) issued by pursuant to the Factory Act B.E.2535, prescribes that "if there is a use of elevator, safety factor of at least 4 times of allowable weight shall be applied, using the average weight of 70 kilograms per person. An elevator shall be the type that can move up or down only when the door is closed, and the type that have alarm system when there is an emergency in it, and shall have the sign indicating the number of passengers or allowable weight." <sup>154</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in

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<sup>152</sup> Clause 6 Ministerial Regulation No.2 B.E. 2535.

<sup>153</sup> Clause 5 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Machine, Hoist and Boiler B.E. 2552.

<sup>154</sup> Clause 6 (12) Ministerial Regulation No.2 B.E. 2535.

Relation to Machine, Hoist and Boiler B.E. 25521 Chapter 1 Part 5 prescribes characteristics of the lift that the installation, assessment, and repair shall be in compliance with the characteristics of each type of lift or the guideline set by a manufacturer. If there is no such detail, an engineer's guideline shall be followed and the investigation and assessment result shall be maintained for a Labour Inspector's investigation. This is clearer than the provision of the Factory Act B.E.2535.<sup>155</sup>

From the study, the Factory Law's provision in relation to lift generally prescribes the deemed weight of each person to be 70 kilograms, which is not true in reality. This is different from the Occupational Safety, Health and Environment Act B.E. 2554 that states the characteristics of a lift clearly and use the weight of a real basis (not by the number of passenger). These two provisions therefore repeat on the same matter, yet conflict to each other.

Although, currently there is no Ministerial Regulation prescribing the characteristic of a lift in accordance with the Factory Law specifically, the Minister of Industry still have the power to issue a Ministerial Regulation by pursuant to the Factory Act B.E.2535. In case such Ministerial Regulation is issued, it should certainly be repetitive to the Occupational Safety, Health and Environment Act B.E. 2554, but the extent of repetition is still unknown.

#### 4. Boiler

##### 1) Safety Test and Investigation

The Factory Act B.E. 2535

The Ministerial Regulation No.2 B.E.2535 Clause 14, issued by pursuant to the Factory Act B.E.2535, prescribes that there should be safety test and investigation of a boiler.<sup>156</sup> Clause 15 prescribes that the factory operator shall submit a safety investigation report to the Department of Industrial Works within 30 days

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<sup>155</sup> Chapter 1 Part 5 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Machine, Hoist and Boiler B.E. 2552.

<sup>156</sup> Clause 14 Ministerial Regulation No.2 B.E. 2535.



from the date of investigation or the date of test, conforming to the rules prescribed by the Minister.<sup>157</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Machine, Hoist and Boiler B.E. 2552 Clause 94 prescribes that there shall be a test and a safety certification for the use of boiler at least once a year. Paragraph two prescribes that there shall be a safety certified document, conforming to the announcement of the Minister, for the use of a boiler.<sup>158</sup>

From the analysis, it is found that the Factory Act B.E. 2535 prescribes that there shall be safety test and investigation for the use of a boiler, and the Occupational Safety, Health and Environment Act B.E. 2554 prescribes the same content — this is repetitive. More importantly, the two Acts prescribe that this is the duty of a factory operator according to the Factory Law which is an employer according to the Occupational Safety, Health and Environment Act B.E. 2554. This means that the duty belongs to the same person, but only that it shall be done in different forms or formalities set by each department. Therefore, these are repetitive provisions prescribing the factory operator or employer to perform the same duty twice; wasting money since the performance of such duty once should be sufficient for safety and hazard prevention.

Also, this unnecessarily puts burden to both departments, which adds up expenses and wastes government budget.

Moreover, there is no provision prescribing that the compliance of one Act is deemed to be that of another.

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<sup>157</sup> Clause 15 Ministerial Regulation No.2 B.E. 2535.

<sup>158</sup> Clause 94 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Machine, Hoist and Boiler B.E. 2552.

## 2) Repair, Modification

### The Factory Act B.E. 2535

The Ministerial Regulation No.2 B.E.2535 Clause 16, issued by pursuant to the Factory Act B.E.2535, prescribes that a factory repairing boiler shall have a private body designated by the Minister of Industry as published in the Government Gazette as a supervisor for such repair.<sup>59</sup>

### Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Machine, Hoist and Boiler B.E. 2552 Clause 95 prescribes that in case of the repair or modification of boiler, an employer shall have a certified professional engineer design, test, and certify the safety of boiler usage. The document evidencing the safety of its usage shall be maintained for the investigation by the Labour Inspector.<sup>160</sup>

It can be seen that the Factory Law prescribes that there shall be a test or an investigation beforehand providing that a factory repairs or modifies a boiler. This repeats the same content as to the Occupational Safety, Health and Environment Act B.E. 2554. Therefore, these are other repetitive provisions. Also, the Factory Law prescribes that a factory operator, which is the same person as an employer under the Occupational Safety, Health and Environment Act B.E. 2554, shall submit a report on the repair and modification results, and investigation and test results to an official, whom is designated by the Minister of Industry - while under the Occupational Safety, Health and Environment Act B.E. 2554, the certification shall be available for the Labour Inspector's investigation. This means that the Labour Inspector shall investigate each factory area. From the analysis, it is found that these provisions prescribe the authority of the two different departments to exercise the same power; wasting time and government budget.

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<sup>159</sup> Clause 16 Ministerial Regulation No.2 B.E. 2535.

<sup>160</sup> Clause 95 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Machine, Hoist and Boiler B.E. 2552.

#### 4.2.3 Safety of Factory Operation

In this part, researcher examines environment in workplace, water system for fire extinction, automatic fire extinction, fire prevention and extinction training and factory fire-fighter

##### 1. Environment in Workplace (Heat, Light, and Noise)

The Factory Act B.E. 2535

The Notification of the Ministry of Industry on Safety Protection Measures in Factory Operation in Relation to Working Environment B.E.2546 Clause 11 prescribes that measurement and analysis of working environment shall be conducted and used to prepare an annual report on working environment of heat level, light, and noise level. The report shall be approved and certified by a safety officer who possesses a high vocational certificate or bachelor degree of science. The report shall be kept onsite readily for an inspection by a competent official.<sup>161</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Heat, Light and Noise B.E. 2559 Clause 14 prescribes that an employer shall provide the measurement and analysis of working environment in relation to heat, light, and noise in workplace. The result shall be maintained for the Safety Inspector. Clause 15 prescribes the duty of an employer to prepare a report of such result in compliance with the Director-General's announcement. The report shall be submitted to the Director-General within 30 days from the date the measurement is finished. The report shall be kept at a factory for the Safety Inspector's investigation.<sup>162</sup>

From the analysis, it is found that there are two repetitive points as following:

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<sup>161</sup> Clause 11 Notification of the Ministry of Industry on Safety Protection Measures in Factory Operation in Relation to Working Environment B.E. 2546.

<sup>162</sup> Clause 14 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Heat, Light and Noise B.E. 2559.

First, on the matter of a report, the Factory Law prescribes that the report shall be in compliance to the rules set by the Minister of Industry. The occupational Safety, Health and Environment Act B.E. 2554 prescribes the rule, procedure, and duration of measurement and analysis in compliance with the Director-General of Welfare and Labour's announcement on the same matter, but only in a different form. Hence, these are repetitive provisions on the matter of measurement and analysis of the working environment, causing a factory operator to have to comply with two sets of rules set by two departments - doubling a burden and wasting money.

Second, the two laws also prescribe in a similar manner. The Factory Law prescribes that the report shall be kept onsite readily for an inspection by a competent official. This means that an official will have to travel to a factory for an inspection. The Occupational Safety, Health and Environment Act B.E. 2554 prescribes that the report shall be kept at a factory for the Safety Inspector's investigation as well. It is seen that the Safety Inspector under the Ministry of Labour will also have to travel to a factory for an inspection as same as an official under the Factory Law. Therefore, this is repetitive duty on the exact same matter that is unnecessary. Both officials should not have been required to perform such same duty because this is wasting of government budget spending on their salaries. Also, there is no provision stating that the compliance of one law is deemed to be that of another.

## **2. Water System for Fire Extinction**

The Factory Act B.E. 2535

The Notification of the Ministry of Industry on Fire Protection and Settlement B.E.2552 Clause 10 prescribes that a factory operator shall provide water in sufficient amount for the continuous use of sprinkler fire system for at least 30 minutes:<sup>63</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Fire Prevention and Extinguishing of Fire B.E. 2555 Clause 12

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<sup>163</sup> Clause 10 Notification of the Ministry of Industry on Fire Protection and Settlement B.E. 2552.

prescribes that an employer shall provide sprinkler fire system and other equipment for primary fire extinction in all parts of a building.<sup>164</sup>

It can be seen that both laws prescribe that there shall be a sprinkler fire system in workplace in a similar manner, which is repetitive - but there are some different contents. In case of the Factory Law, a factory operator shall provide water in sufficient amount for the use of sprinkler fire system for at least 30 minutes without taking the size of building into account. In contrast, the Occupational Safety, Health and Environment Act B.E. 2554 whilst prescribing about that there shall be sprinkler fire system and other equipment for primary fire extinction in all parts of a building, dismisses the period of continuous use of sprinkler fire system. The latter just prescribes that the system shall be sufficient. This is the case which two laws, which is in the same hierarchy, prescribe differently in the same matter. Providing a factory operator complies with one law, he will certainly violate another and vice versa. Even worse for a factory operator, these are criminal laws with penalties namely: imprisonment, fine or both.

### **3. Automatic Fire Extinction**

The Factory Act B.E. 2535

The Notification of the Ministry of Industry on Fire Protection and Settlement B.E.2552 Article 12 merely prescribes that there shall be an automatic fire extinction system only in the case of a factory with inflammable products and lands connecting to one another from 1,000 metre square and above, shall have an automatic fire extinction system.<sup>165</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Fire Prevention and Extinguishing of Fire B.E. 2555 Clause 14

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<sup>164</sup> Clause 12 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Fire Prevention and Extinguishing of Fire B.E. 2555.

<sup>165</sup> Clause 12 Notification of the Ministry of Industry on Fire Protection and Settlement B.E. 2552.



prescribes that in case of an employer providing an automatic fire extinction system,<sup>166</sup> he shall do as followed...

The factory Law prescribes that there shall be an automatic fire extinction system only in the case of a factory with inflammable products and lands connecting to one another from 1,000 metre square and above. In other words, a factory without inflammable products and lands connecting to one another from 1,000 metre square and above, has no obligation to have such automatic system. In contrast, the Occupational Safety, Health and Environment Act B.E. 2554 does not state about the aforementioned case, it indeed prescribes that providing that an employer wants to have such automatic system, he will have to follow Clause 14. This provision, therefore, provides an employer with the right to choose, not an obligation. As a result, there is a legal gap that a factory operator could avoid providing such automatic system in the following cases: (1) a factory without inflammable products and lands connecting to one another from 1,000 metre square and above, (2) a factory with inflammable products but no lands connecting to one another from 1,000 metre square and above, and (3) a factory with lands from 1,000 metre square and above but not connecting to one another. The aforementioned cases are the legal gap that a factory operator can avoid to provide the automatic system, albeit the appearance of factory could be hazardous to workers in case of fire.

#### **4. Fire Prevention and Fire Extinction Training**

The Factory Act B.E. 2535

The Notification of the Ministry of Industry on Fire Protection and Settlement B.E.2552 Article 17 prescribes that a factory operator shall provide his employees with fire prevention and fire extinction training. An evidence of such training shall be kept onsite readily for an inspection.<sup>167</sup>

Occupational Safety, Health and Environment Act B.E. 2554

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<sup>166</sup> Clause 14 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Fire Prevention and Extinguishing of Fire B.E. 2555.

<sup>167</sup> Clause 17 Notification of the Ministry of Industry on Fire Protection and Settlement B.E. 2552.

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Fire Prevention and Extinguishing of Fire B.E. 2555 Clause 27 prescribes that an employer shall provide at least 20 per cent of employees in each department with fundamental fire extinction training conducted by a person designated by the Department of Labour Protection and Welfare.<sup>168</sup>

From the analysis of the two laws, there are contents repeating on fire prevention and fire extinction training, but some details are different. Under the Factory Act, each worker is required to be trained, whereas under the Occupational Safety, Health and Environment Act B.E. 2554 only 20 per cent of employees in each department are required to be trained. This demonstrates the laws, in the same hierarchy, sharing the same subject matter, but with contradicting details — causing confusion and difficulties for a factory operator to follow.

### **5. Factory Fire-fighter**

The Factory Act B.E. 2535

The Notification of the Ministry of Industry on Fire Protection and Settlement B.E.2552 Clause 26 prescribes that a factory operator shall have person(s), on duty for factory safety, to assess the safety in relation to fire for at least once a month. An evidence of such assessment shall be kept onsite readily for an inspection by an official.<sup>169</sup>

Occupational Safety, Health and Environment Act B.E. 2554

The Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Fire Prevention and Extinguishing of Fire B.E. 2555 Clause 17 prescribes

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<sup>168</sup> Clause 27 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Fire Prevention and Extinguishing of Fire B.E. 2555.

<sup>169</sup> Clause 26 Notification of the Ministry of Industry on Fire Protection and Settlement B.E. 2552.

that an employer of a factory, where it is likely to catch severe fire, shall always have an employee readily onsite for fire extinction during working hour.<sup>170</sup>

By considering that the Factory Law prescribes that (1) there shall have person(s), on duty for factory safety, to assess the safety in relation to fire for at least once a month, (2) an evidence of such assessment shall be kept onsite readily for an inspection by an official, while the Occupational Safety, Health and Environment Act B.E. 2554 prescribes that there shall always have an employee readily onsite for fire extinction during working hour, these laws are repetitive. By interpreting the two laws, apart from a monthly assessment, there shall always be an employee readily onsite for fire extinction during working hour in case of a factory is likely to catch severe fire - which additionally provides employees with an extra protection. Nevertheless, these two laws, which are in the same hierarchy, prescribe the same matter with contradicting details. This results in difficulties for a factory operator to follow; as in he might fail to comply with one of these. Providing the two laws are combined into one, it would be of convenience for a factory operator.

In Singapore and United States, there is no problem with organization, department, or person authorized to enforce the repetitive laws and likewise there is no problem with repetitive duties of an employer to perform such duties in compliance with various laws or rules — which contain different details. The rationale behind this is that, Singapore merely have one law in relation to factory safety that provide employees or workers with protection from hazardous incidents: Workplace Safety and Health Act 2006. The United States has one law in relation to factory safety which is Occupational Safety and Health Act 1970.

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170 Clause 17 Ministerial Regulation on the Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in Relation to Fire Prevention and Extinguishing of Fire B.E. 2555.

## **Chapter 5**

### **Conclusion and Recommendations**

#### **5.1 Conclusion**

The Factory Law and the Labour Law share the same objective, which is to protect a worker from any accident or danger in workplace, prevent any loss of lives and properties belong to workers, and particularly protect a worker whom considered as an essential resource for the nation development.

In regards to the factory operation, a factory operator, who is an employer of a worker or an employee in the same workplace, is controlled, regulated, and monitored by many government sectors; especially the Ministry of Industry and the Ministry of Labour. The Ministerial Regulations are also involved in the factory operation namely: the Factory Act, B.E. 2535 and the Occupational Safety, Health and Environment Act B.E. 2554. The application of both laws is repetitive at many points ranging from contents to the authority to enforce such laws, which double the budget the government needs to spend on this. Furthermore, this also double the duty of a factory operator to unnecessarily comply with both laws, while he is still not certain about which law to comply with when the two laws conflict. Providing the investigation and amendment in regarding to repetitive contents are carried out, not only does this benefit the government sectors involved; but also the private sector. In other terms, the factory operator would certainly know the precise scope of his duty. In order to do this, the government sectors involved is required to have a seminar or a discussion about the separation of each authority to avoid any repetitiveness. In fact, nothing has been done much to solve the problem and so there shall be a prompt solution and further development of such laws. This could help diminish the duty to comply with the two laws by both government and private sectors, and generally develop the nation in accordance with the set goal by the elimination of all repetitive laws especially in relation to the occupational safety. From the past until now, the factory operation is advanced both scientifically and technologically. As a result, the manufacture which is now in an industrial scale together with other technology used have effects on public health. Therefore, it is of significance for any officials or government sectors involved

to intervene such factory operation, in order to protect the public health, environment, and factory workers specifically - by issuing various pieces of legislations covering all aspects. Unfortunately, these legislations, on the same matter of workplace protection measurement, conflict to one another. Hence, in order to achieve objective of the laws on such matter, the laws themselves shall be precise, not conflicting, and not repetitive. In this way, the enforcement of such laws by government would be effective since a factory operator could correctly and easily comply with them.

There are two laws on the occupational safety namely: the Factory Act, B.E. 2535 and the Occupational Safety, Health and Environment Act B.E. 2554. If there are many laws and so many government sectors in charge of their enforcement, the accident rate in workplace should decrease. In fact, the accident rate is still continuously escalating. This illustrates that the enforcement of two laws at the same time on the same matter does not support each other, but merely repeat each other. Therefore, there shall be an amendment in order to alleviate the duties of both government and private sectors.

From the study, it is found that the repetitiveness of such laws, doubling the duties of government and private sectors are as followed:

1. Organizations or government departments and officials empowered to regulate, investigate, and monitor the execution of acts namely: the Minister who takes charge and control of such execution, and an official who has the same power
2. Legislations on the occupational safety prescribing a factory operator's duty

From the study, it is found that there are three repetitive points as followed: (1) Location, Environment, Appearance of Building, and Interior of the Factory comprised of Unventilated and Confined Space, Hospital or First Aid Room, and Toilet, Urinal, Wash Room in an Emergency, (2) Machinery, Equipment or any material to be used un the factory comprised of Electricity System, Lift, Boiler, (3) Safety for Factory Operation comprised of Work Environment, Water System for Fire Extinction in Factory Building, Automatic Fire Extinction System, and Fire Prevention and Fire Extinction Training.

However, in Singapore and the United States of America, there is only one law on occupational safety in factory. In Singapore, the Workplace Safety and Health Act 2006 is enforced, whilst in the United States of America, the Occupational Safety and



Health Act 1970 is enforced. As a result, there is no such problem found in Thailand. The writer therefore recommends that the government shall promptly take a necessary step to solve this problem.

## 5.2 Recommendations

From the study of laws on occupational safety in factory in Thailand and other countries, together with the analysis, it is found that Thai laws are repetitive in many points as mentioned above. The aforementioned repetitive points shall therefore be ceased. Indeed, the enforcement of one piece of law is recommended as this could enhance its effectiveness of the enforcement, save the government budget, and alleviate the duty of a factory operator. In return, this could decrease the cost of manufacture and so the product price eventually. This is why the writer suggests the following solutions:

1. The standard of safety in each aspect in case of many ministries are involved in such standard:

1) All ministries should consider the use of only one same form or standard for all ministries.

2) The investigation result in relation to the safety standard of one ministries (in accordance with its formality) should be accepted by other ministries.

3) In case that an announcement in relation to the safety standard has already been announced by one ministry, and providing that another ministry has not announced, the latter ministry should use the previous announcement as its standard - in order to avoid redundancy.

2. Overall, in relation to the safety in workplace, there should be only one governmental ministry which is responsible for the control and monitor of the compliance of laws and regulations. For example, the Ministry of Industry could responsible for factory matters, whilst the Ministry of Labour could responsible for the safety management, safety culture, safety practice, etc. — or any worker's operation should be responsible by the Ministry of Labour. However, in fact, there should only be one ministry, which is in charge of everything. This is an international standard,

seen in Singapore and the United States of America where The Ministry of Manpower and the Ministry of Labour are the only authorities respectively.

3. Nowadays, Thailand has the Licensing Facilitation Act B.E. 2558, which acts as a central legislation, clearly prescribing procedures and duration for the permission consideration. The act also prescribes that there should be a one-stop service centre providing information to people and receiving the request for permission, which would facilitate people. In this regard, the Factory Act B.E. 2535 states about this matter clearly, which is very up-to-date, in section 31 that governmental ministries could jointly make a decision or delegate its authority to any ministry. Therefore, we should comply strictly with this law in order to reduce the repetitive procedures.

4. From the study of Singapore's legislation, it is found that Singapore used to apply both Factory Act 1973 and Workplace Safety and Health Act 2006. However, once the enforcement of the Workplace Safety and Health Act is announced, the enforcement of the Factory Act is revoked. Besides, the United States of America has been enforcing one legislation, which is the Occupational Safety and Health Act 1970. Hence, the two countries do not face the problem Thailand is facing now because there is only one legislation and authority responsible for the compliance of such legislation.

5. In regard to the different terms, causing confusion and importantly unnecessary burdens to factory operators, such as Factory Operator vs. Employer and Worker vs. Employee — which these people are the same person indeed. Other examples are, Accident under the Factory Act might not be that of under the Occupational Safety Act, or it could be under both Acts — resulting in two reports overly unnecessarily submitted to two ministries. Even worse than that, these two ministries are just called in different names, albeit there are at the same place. I therefore recommend that only one term should be used.

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