

Comparison of Legal System of Occupational Safety and Health between Mainland China and Taiwan

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Abstract

Mainland China and Taiwan have both completed revisions of their occupational safety and health laws during the last few years, and both address similar occupational safety and health areas, including such supervisory and management tasks as production safety management, hazardous chemical products, education & training, and accident prevention. This article provides a brief introduction to the supervisory organizations, legal frameworks, and legal responsibilities relating to health and safety in Mainland China and Taiwan, and summarizes the focal points of these most recent revisions of occupational safety and health laws in Mainland China and Taiwan. The article finally proposes some key guidelines concerning fields connected with occupational safety and health, and these guidelines may provide countries or companies planning to enter this market—the world’s largest manufacturing market—with response methods and guidance.

Keywords

Safety and Health, Production Safety Management, Supervisory Organizations, Legal Responsibility

1. Introduction

To a certain degree, occupational safety and health (OSH) management prior consent is a positive indicator of socioeconomic development. In recent years, Mainland China and Taiwan have both revised their occupational safety and health laws. Acting first, Taiwan revised its Occupational Safety and Health Act on July 3, 2013, which was enlarged to apply to all industries [1]. For its part, in

Mainland China, on August 31, 2014, at the 10th conference of the Standing Committee of the 12th National People's Congress, the Standing Committee of the National People's Congress approved the revised Production Safety Law of the People's Republic of China ("Production Safety Law"), which has been in force since December 1, 2014 [2]. But because the occupational safety and health legal systems and environments of Mainland China and Taiwan have different degrees of development, it is therefore felt necessary to investigate, analyze, and compare these systems.

This article employs the literature research method and comparative research method [3]. During the research process, the researchers summarized, analyzed, and compared the occupational safety and health legal systems, laws and regulations, and academic research, and investigated similarities and differences in the supervision and management of the occupational safety and health legal systems of Mainland China and Taiwan, including their production safety management, equipment inspection, hazardous chemical products, education & training, and accident prevention. This is done to gain a better understanding of the occupational safety and health legal systems of Mainland China and Taiwan, and their state of implementation, share each system's advantages, and promote the goal of occupational safety and health.

2. Introduction to Mainland China's Occupational Safety and Health Legal System

2.1. Supervisory Organizations

Mainland China's occupational safety and health legal framework takes two statutes—the Production Safety Law and Prevention Law for Occupational Disease—as its basis; With regard to management of the occupational safety system, the State Administration of Work Safety (referred to below as SAWS) [4] is the supervisory organization, but the Prevention Law for Occupational Disease explicitly requires SAWS to jointly perform supervision and management of occupational health in conjunction with the health administrative department and labor safeguard administrative department [5].

2.1.1. Production Safety Law

Although, since the Production Safety Law was implemented on November 1, 2002, the respective responsibilities of central and local governments have occasionally changed. On March 17, 2018, the central government will undertake the "National Safety Production Supervision Administration", "State Council Emergency Management Bureau", "Ministry of Public Security" fire management duties, and the "Ministry of Civil Affairs" disaster relief work. Ministry of Land and Resources, prevention and control of geological disasters, flood control by the Ministry of Water Resources, "Pests of the Ministry of Agriculture", "National Forestry" Forest Fire Prevention Bureau, "China Earthquake Administration" "National Flood Control and Drought Relief Headquarters", "National Disaster

Reduction Committee”, “State Council The Earthquake Relief Headquarters”, “The National Forest Fire Prevention Command” is responsible for the comprehensive disaster relief and rescue functions, and the “Emergency Management Department” is a department of the State Council. The China Earthquake Administration and the State Coal Mine Safety Supervision Bureau are managed by the emergency management department. After the transformation of the armed police forestry units, together with the emergency rescue teams such as safety production, as the comprehensive standing emergency backbone force, it will be managed by the “Emergency Management Department”. The State Administration of Work Safety will not retain it.

The foregoing safety production supervision and management agencies are collectively referred to as “Emergency Management Department” and, in accordance with law, must undertake three “essential” responsibilities, which are “management of the industry must ensure safety, management of services must ensure safety, and management of production must ensure safety” [2] [6].

2.1.2. Prevention Law for Occupational Disease

The Prevention Law for Occupational Disease has been in force from May 1, 2002. With regard to the agency in charge of supervision and management of occupational disease, hierarchical management shall be performed by central and local government agencies in accordance with the regulations of the Prevention Law for Occupational Disease; In terms of administrative relationships, Mainland China has adopted concurrent supervision by health supervision agencies and other agencies. Although the safety supervision agency performs supervision in conjunction with the health and labor agencies, the supervisory inspection and judgment powers of the two types of agencies must be undertaken by the safety supervision agency [5].

Because of this, a summary of the two foregoing statutes reveals that the safety supervision agency is the competent authority in charge of production safety and occupational disease control supervisory inspection, and it can be said that Mainland China’s occupational safety and health supervision and management work is chiefly the responsibility of the safety supervision agency.

2.2. Legal Framework of the Occupational Safety and Health System

In accordance with legal practice, Mainland China’s laws governing occupational safety and health include special laws and related laws; laws specifically addressing work safety can be classified as 8 types [7]: 1) General safety category: Production Safety Law of the PRC; 2) Coal mine and non-coal mining safety category: Law of the People’s Republic of China on Safety in Mines, Coal Industry Law of the People’s Republic of China; 3) Transportation safety category: Civil Aviation Law of the People’s Republic of China, Railway Law of the People’s Republic of China, Road Traffic Safety Law of the People’s Republic of China, Maritime Traffic Safety Law of the People’s Republic of China, Regula-

tion on the Administration of Transport Safety of Radioactive Articles; 4) Building construction safety category: Construction Law of the People's Republic of China; 5) Fire safety category: Fire Prevention Law of the Peoples Republic of China; 6) Hazardous chemical product safety category: Regulations on the Safety Administration of Dangerous Chemicals; 7) Civilian use explosives safety category: Regulation on the Safety Administration of Explosives for Civilian Use; 8) Petroleum and natural gas safety category: Oil and Natural Gas Pipeline Protection Law of the People's Republic of China; 9) Labor safety protection category: Labor Law of the People's Republic of China, Special Equipment Safety Law of the People's Republic of China. With regard to laws regulating occupational safety and health, apart from the People's Republic of China Prevention Law for Occupational Disease, there are also some supplementary statutes and regulations, such as the Provisions on the Prevention and Control of Occupational Hazards at the Work Sites of Coal Mines, Law of The People's Republic of China on Prevention and Control of Occupational Diseases, Work Safety Law of the People's Republic of China, Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases, Regulations for Occupational Health Surveillance for Radiation Workers, and Social Insurance Law of the People's Republic of China [8].

There are also over 150 national standards, industry standards, and local standards, and various treaties and international agrees applicable to occupational safety and health in Mainland China, such as International Labor Organization No. 170 (convention concerning the safety of chemical products used in the workplace), International Labor Organization No. 155 (occupational safety and health convention), International Labor Organization No. 161 (occupational health service convention), etc. These form Mainland China's occupational safety and health legal system, which has a framework consisting of a production safety basic law, administrative laws and regulations, local laws and regulations, rules, technical standards, and international agreements [6] [9].

2.3. Legal Responsibility

However, when Mainland China extended the scope of safety accident crimes to all production and operating premises, and revised and added relevant crime names, which only occurred in the June 29, 2006 revision of the Criminal Law (6), this compensated to a certain extent for regulations in the old Criminal Law concerning how the criminal entity cannot reflect the limited diversity of behavioral subjects, and the inadequate force of the Production Safety Law in opposing illegalities and violations [10]. The following is an analysis of this OSH system of Mainland China from the perspective of administrative, civil, and criminal aspects:

2.3.1. Administrative Responsibility

Apart from companies' chief statutory responsible persons, safety management personnel, and other working personnel, the subject of punishment pursuant to

the Production Safety Law or Prevention Law for Occupational Disease, also includes personnel in departments implementing public business and the members of committees performing assessment and appraisal in accordance with law. Although the Administrative Supervision Law of the People's Republic of China currently provides for the punishment of civil servants [11], the most specific regulations concern the area of production safety, and express the greatest emphasis, but there appears to be redundant regulations in this area.

2.3.2. Civil Responsibility

Paragraph 1, Article 111 of the Production Safety Law specifies that production and business operation entities are responsible for providing compensation: "If production safety accidents occurring at production and business operation entities caused death or injury, or third-party property losses, they must there responsibility for compensation in accordance with law; ..." According to the meeting and explanation of these clauses, as long as a production safety accident occurs at a production and business operation entity, causing death or injury, that production and business operation entity must bear responsibility for compensation. In other words, the precondition for a production and business operation entity assuming responsibility for an accident is that an accident has occurred (apart from natural accidents), and has caused the death or injury of personnel, or third party losses, in which case the entity must assume responsibility.

In addition, if injury or death occurs in a production safety accident, three types of compensation may be obtained in accordance with the law: work-related injury insurance compensation, compensation provided in accordance with the general principles of the Civil Code, and accidental death or injury compensation per se. These types of compensation are not mutually inclusive, and should not be adjusted even when overlapping; the employer's responsibility is not lessened even when an accident has been caused by the workers' negligence. In view of Mainland China's use of this type of compensation system including both punitive and compensatory provisions, production and business operation entities in all industries are clearly aware of the great cost of accidents, to which administrative penalties may be added. The skyrocketing cost of dealing with accidents has motivated a great increase in production safety consciousness among production and business operation entities.

2.3.3. Criminal Responsibility

With regard to regulations concerning criminal responsibility in the Production Safety Law and Prevention Law for Occupational Disease, when the constituent elements of a crime are not present, only general regulations govern criminal responsibility, and the specific content of penalties must be handled pursuant to the Criminal Law. For instance, the Criminal Law of the People's Republic of China contains criminal provisions concerning "crime of compelling risky work in violation of regulations", "crime of major labor safety accident", "crime of

major safety accident in a mass activity”, “crime of fire safety accident”, “crime of forcing workers to perform”, “crime of employing child labor to engage in hazardous work” and “refusal to pay workers work compensation”; the minimum basic punishment in these cases is 3 years, and the maximum punishment in the case of severe offenses is 7 years, which makes it imperative to exercise great caution [6] [10] [12].

3. Introduction to Taiwan’s Occupational Safety and Health Legal System

3.1. Inspection Organization

At present, occupational safety and health inspections in Taiwan are chiefly the responsibility of “labor inspection organizations” and “commissioned inspection organizations”. Article 5 of the Labor Inspection Act prescribes that “labor inspection shall be performed by a labor inspection organization established by the central competent authority or dedicated labor inspection organization established by the special municipality competent authority or a relevant agency” [13], where labor inspection organization refers to: 1) A labor inspection organization established by the central competent authority refers to the northern, central, or southern regional occupational safety and health center directly subordinate to the Occupational Safety and Health Administration, Ministry of Labor; 2) A labor inspection organization established under the authority of a special municipality authorized by the central competent authority refers to the Taipei Municipal Labor Inspection Office, New Taipei Labor Inspection Office, Taichung Labor Inspection Office, and Kaohsiung Bureau of Labor Inspection Office; 3) A labor inspection organization established under the authority of an agency authorized by the central competent authority refers to the Ministry of Science and Technology’s Hsinchu Science Park Administration, Central Taiwan Science Park Administration, and Southern Taiwan Science Park Administration, and the Export Processing Zone Administration under the Ministry of Economic Affairs. The latter two inspection organizations are subject to the direction and supervision of the central competent authority [6] [14].

As for commissioned inspection organizations, in accordance with articles 3 and 17 of the same Act, such organizations may inspect only work involving hazardous machinery or equipment, and shall be under the supervision of the central competent authority. The foregoing laws and regulations explicitly specify that the central competent authority, which is the Ministry of Labor, shall determine the scope of labor inspection authorization. As a consequence, the inspection authority of other relevant agencies and commissioned inspection organizations is not derived from legal authorization, but instead must receive special authorization from the central competent authority before it may be exercised, and such organizations are subject to the direction and supervision of the Ministry of Labor. As a consequence, while Taiwan employs centralized control over the labor inspection organizational system, the system should be classi-

fied as a “hybrid centralized” management model [14].

3.2. Legal Framework of the Occupational Safety and Health System

Taiwan’s occupational safety and health laws and regulations were originally included within general labor laws, and only evolved into independent laws as a result of industrial development and an increase in the frequency of occupational accidents. In the wake of the announcement of the Labor Safety and Health Act in 1974, the successive issuance of 41 subsidiary laws and regulations, and the complementary roles played by the Labor Standards Law and Labor Inspection Act [6] [10] [15], the content and framework of Taiwan’s occupational safety and health legal system was largely complete.

3.3. Chief Laws Concerning Occupational Safety and Health

Taiwan Labor Standards Law [16] and Occupational Safety and Health Act respectively govern supervisory and management matters, and provide general regulations concerning the three statutes’ “supervisory and management” tasks. However, while these laws have regulations concerning inspection organizations, personnel, and procedures, the Labor Inspection Act provides unified regulations [13]; the following is a brief explanation.

3.3.1. Labor Standards Law

Taiwan’s Labor Standards Law was originally designed with a scope encompassing solely the industrial sector. Afterwards, as a reflection of administrative agencies representing traditional industries and emerging social service industries, and the strength of society, after several rounds of review and compromise, agriculture, forestry, fishing, animal husbandry, and mass communications were included within the scope of the Labor Standards Law. The first revision of the Labor Inspection Act, which occurred in December 1996, explicitly specified that the Act applied to all labor-management relations. However, since applicability turned out to be difficult due to factors such as operating format, management system, and work characteristics, after the central competent authority had designated and announced industries or workers not subject to the Labor Standards Law, apart from a small number of industries or types of work designated and announced by Council of Labor Affairs, almost all private sector industries and occupations fell within the scope of Labor Standards Law; In the public sector, the Labor Standards Law is likewise applicable to temporary personnel, technical workers, drivers, and maintenance workers. From its legislation in 1984 until today, the Labor Standards Law has undergone 16 major and minor revisions. This Law has become the most important law protecting the basic wages, working hours, and labor conditions of workers in Taiwan. However, this article will perform a hybrid comparison and investigation addressing only those sections of the Labor Standards Law concerning “supervision and inspection”.

3.3.2. Labor Standards Law

Taiwan's Labor Inspection Act exclusively prescribes the legality of labor supervisory inspections, and has consistently listed occupational safety and health supervision and management matters as among the most important of key labor inspection directions over the years.

The labor inspection methods implemented under this Act include three types: "voluntary employer inspections", "commissioned inspections by designated organizations" and "functional inspections by inspection organizations." Among these, "commissioned inspections by designated organizations" refer to safety inspections of hazardous machinery or equipment, such as boilers, pressure containers, cranes, and lifts, conducted by an administrative agency, academic organization, state-run enterprise organization, or nonprofit juridical person designated by the competent authority. Although this system has been effective in relieving pressure from the government's lack of inspection manpower, it has faced developmental difficulties in recent years. These difficulties have included such questions as whether to expand applicability, how to secure funding sources, and how to strengthen coordination between commissioning organizations and inspection organizations, etc.

In order to boost supervision and management performance, Taiwan's Labor Inspection Act also specifies that, apart from review or inspection of hazardous work premises, inspection of hazardous machinery or equipment, and occupational accident prevention inspections, labor inspectors may not notify business units in advance when inspections will be implemented; Employers must post inspection results in readily-visible places in violating premises for at least 7 days; Furthermore, the results of labor complaints must also be announced, and violators will be punished by fines. This may possess some significance as a reference to guide supervision, management, and inspection method in Mainland China.

3.4. Legal Responsibility

In Taiwan, if a business unit is in violation of the Labor Safety and Health Act, the labor inspection organization or safety monitoring organization may uniformly punish that company in accordance with law; If a case involves criminal responsibility, it must be referred for prosecution, and the workers involved may also demand monetary compensation or other compensation responsibilities from the business unit. The following is an analysis of this OSH system of Taiwan from the perspective of administrative, civil, and criminal aspects:

3.4.1. Administrative Responsibility

This is specified in articles 36 and 40 - 49 of Taiwan's Occupational Safety and Health Act, and articles 27 - 29 and 34 - 36 of the Labor Inspection Act, in which punishments include "cessation of work", "suspension of business", "fines", "confiscation" and "other necessary measures". The subjects of punishment are limited to private entities, namely employers, certification, monitoring, medical,

and consulting service organizations, and training units, etc. With regard to the punishment of illegal behavior on the part of civil servants, the Public Functionaries Discipline Act governs such punishments [17], and the Occupational Safety and Health Act contains no redundant regulations concerning this aspect.

3.4.2. Civil Responsibility

Because the Occupational Safety and Health Act likewise do not contain any special regulations governing civil compensation responsibility, such regulations must be obtained from the Civil Code and Occupational Accident Labor Protection Act [17] [18]. Because Taiwan has adopted presumption of negligence liability, Article 7 of the Occupational Accident Labor Protection Act prescribes that “the employer must bear responsibility for compensation when workers are injured in occupational accidents. However, this restriction shall not apply if the employer can prove that it was not negligent.” [19]. Because the textual revision of Paragraph 1, Article 184 of the Civil Code adopts the doctrine of negligence, except when an employer can prove that an occupational accident was not intentional or the result of negligence, the employer must bear responsibility for damage compensation to workers affected by the accident.

In addition, since the Occupational Safety and Health Act do not have special regulations governing employer compensation or the scope of compensation, such regulations must be obtained from the Civil Code and Labor Standards Law. It can be found that workers affected by occupational accidents have three pathways for obtaining compensation: Requesting compensation for damage in accordance with the provisions of the Civil Code concerning infringing behavior; occupational accident compensation obtained in accordance with the Labor Standards Law; and labor insurance payments obtained in accordance with the Labor Insurance Statute. Appropriate adjustments may be made if these three types of compensation are redundant, and the requirements of Article 217 of the Civil Code then applied. If a worker has violated the regulations of the Occupational Safety and Health Act, causing an occupational accident, the employer may petition for a reduced compensation amount lessened in proportion to the workers’ ratio of negligence in accordance with the foregoing negligence offset regulations.

3.4.3. Criminal Responsibility

According to articles 40 and 41 of the Occupational Safety and Health Act and Article 34 of the Labor Inspection Act, actions specifically violating occupational safety and health regulations shall be punished, and punishments may include imprisonment for less than 3 years or 1 year, detention, and fines.

4. Comparison of Differences in Points of Revision of the Occupational Safety and Health Legal Systems and Their Supervisory Matters

Generally speaking, the occupational safety and health legal systems of Mainland

China and Taiwan have many similar and different supervision and management focal points, which include supervision and management of work premises, production safety management costs, equipment inspection, hazardous chemical products, education & training, and accident prevention. The following is an explanation of the differences in legal revision content and supervisory matters between Mainland China and Taiwan:

4.1. Key Points of Mainland China's Legal System Revisions

To a certain degree, Mainland China's Production Safety Law embodies a "lump sum" approach to legislation. In the current law, we can see many regulations governing the supervision of production safety by government oversight agencies; there are likewise many "declamatory clauses" where the actual regulations of such clauses remain relatively unclear. Although some revisions were made to legislative purpose, and there has been significant progress, enforcement is no longer limited to administrative supervision, and there has been a shift to production safety work under a full-scale regulatory system, it is regrettable that Mainland China's recent revisions of the existing law still failed to address numerous problems. For instance, the revisions failed to clearly define protective personnel, and the applicable scope of production operating activity units remains vague. Key points of revision to Mainland China's Production Safety Law are as follows [7]:

1) Legislative purpose.

First, Article 1 of Chapter 1 General Principles clarifies the legislative purpose of the Production Safety Law as "strengthening production safety work" and provides the special explanation that production safety is an invariable requirement for the realization of scientific development and the safe development concept, where production safety is not only an economic problem, but also a social issue.

In addition, this revised content also emphasizes that "production safety work should be human-centered", where this is the first time that the human-centered concept has appeared in legislative form in Mainland China. This substantively emphasizes the importance of "persons" in production safety; in the explanation, "persons" refers to the general public, and "-centered" refers to fundamental benefit. This generally implies that production safety work should be based on individuals, and place human life and property foremost, which is the central concept of production safety work.

2) Scope

The first paragraph of Article 2 of the Law specifies that "This Law is applicable to production safety at units engaging in production operating activities", while subsequent paragraphs explain exceptions. This revision makes special exceptions of "nuclear and radiation safety, special equipment safety" because the Special Equipment Safety Law of the People's Republic of China passed on June 29, 2013 already provides clear, concrete regulations governing the safety super-

vision and management of special equipment, including its production, sale, use, inspection, and testing, and also because Mainland China's current nuclear and radiation safety laws, administrative statutes and regulations, and management systems, including the Law of the People's Republic of China on Prevention and Control of Radioactive Pollution, Regulation on the Supervision and Management of Civil Nuclear Safety Equipment, and Law of the People's Republic of China on Prevention and Control of Radioactive Pollution, are relatively comprehensive. In addition, operating personnel consisting of dispatched workers are likewise protected by this Law, and must perform their prescribed duties.

3) Production safety responsibility

This revision emphasizes that the "production safety responsibility system" must clarify the persons involved at each work position, and must also clarify the scope of responsibilities that each work position. The use of legislation to specify the duties of production safety management organizations and production safety management personnel enhances their work status and authority, which can increase the sense of responsibility among relevant management personnel, and encourage them perform their duties with even greater vigor; it can also cause other relevant departments and managers to be conscious of the importance and duties of the safety management organization and safety management personnel. Because it may be difficult to see the effects of safety management work, which however requires real economic support, and many aspects of the safety management process may affect the progress of normal work, to ensure that safety management personnel do not lack status, power, or sufficient compensation (the "three lacks"), which would severely affect their performance of their duties and lawful rights, the law emphasizes real protection for the performance of duties by safety management personnel.

4) Governance to eliminate the threat of production safety accidents

The intent of this clause is to ensure the faithful implementation of accident risk inspection and elimination work, and it implies that diligent efforts to eliminate risks ahead of time is the key to the prevention of production safety accidents. In order to further highlight the status of accident risk inspection and elimination work in the production safety management work of production and business operation entities, better standards should be provided for accident risk inspection and elimination tasks. As a consequence, the revision specifically provides newly-added regulations governing the basic system for inspection and elimination of accident risks.

5) Regulations concerning mandatory supervision and management measures

During actual implementation, some production and business operation entities with major accident risk have suffered accidents due to refusal to implement in accordance with law relevant decisions made by agencies responsible for production safety supervision and management duties. When there is a real risk of accident, it is difficult for decisions concerning application of court-ordered compulsory enforcement to avoid effective emergency requirements intended to

avoid accidents. Objectively, supervisory agencies must be given the authority to implement administrative compulsory enforcement as needed, which will ensure that they can adopt effective measures in real-time and can compel production and business operation entities to implement the decisions; they thus must be given on-site emergency disposal powers needed to avoid the severe consequences of accidents. However, because abuse of the foregoing power will have a great impact on production and business operation entities, severe restrictions must be placed on the preconditions and implementation procedures in this clause.

6) Regulations concerning the establishment of illegal behavior information repositories

Addressing situations in which very large and ultra-large companies, especially listed companies, “fear exposure more than fines”, this revision expressly adds regulations establishing an illegal behavior “blacklist system”, and clearly specifies that agencies responsible for production safety supervision and management duties shall establish production safety legal behavior information repositories, record information concerning the illegal production safety behavior of production and business operation entities, should publicly announce severe illegal behavior, and notify the industry competent authority, investment competent authority, national land and resources competent authority, securities supervision and management agency, and financial institutions connected with the case.

7) Regulations concerning strengthening production safety accident response capabilities, assistance organizations, and equipment

Since Mainland China is still in a period of time in which production safety accidents may easily recur, and the total number of accidents and specific major accidents have not yet been effectively reduced, the situation continues to fluctuate, and illegal production, operation, and construction behavior continues to frequently occur; and because Mainland China’s production safety response capabilities and facilities is still relatively insufficient, and there are shortages of the large and specific types of equipment needed to address large and very large accidents, the blind implementation of rescue efforts sometimes causes the scope of accidents to expand. In light of these circumstances, this revision adds and strengthens dedicated regulations concerning production safety accident response capabilities and facilities.

8) Fines for violations by the main statutory responsible persons of production and business operation entities

Prior to revision, the Production Safety Law prescribed an upper limit of RMB 200,000 for the economic punishment of companies’ chief statutory responsible persons who fail to perform their production safety management duties, causing a production safety accident. In view the fact that Mainland China is current developing at high speed, a penalty of RMB 200,000 may be insufficient to have an adequate deterrent effect. In order to increase the cost of violations by rele-

vant responsibility persons and achieve a better objective results, this revision prescribes punishments directly specifies fines as a percentage of annual income, which are also consistent with Regulations concerning the Reporting, Investigation, and Handling of Work Safety Accidents.

At the same time, addressing production and business operation entities that have not adopted measures to eliminate risk of accident, such entities may be ordered to eliminate such risks, either immediately or within a certain period of time. If such entities refuse or obstruct supervisory inspection by agencies responsible for production safety supervision and management duties, or refuse to implement improvement or corrective actions, apart from ordering such entities to stop production or suspend business for corrective action, the violators may be fined from RMB 100,000 to RMB 200,000, and their directly responsible supervisory personnel and other responsible personnel may be fined from RMB 20,000 to 50,000. If the illegal situation constitutes a crime, such individuals' criminal responsibility may be investigated in accordance with the Criminal Law. In addition, to ensure that the cost of violations by production and business operation entities where production safety accidents have already occurred reinforces the effect of punishment, the RMB 5 million upper limits of fines in the Regulations concerning the Reporting, Investigation, and Handling of Work Safety Accidents has been revised to RMB 20 million.

4.2. Key Points of Revisions in Taiwan's Legal System

Legislative advances have made Taiwan's Occupational Safety and Health Act an independent legal system. Taking the Occupational Safety and Health Act as the original law, numerous other laws, regulations, and statutes have been drafted to address industry subcategories and classifications, which have established effective mechanisms ensuring there are laws to follow, laws contain methods, and laws constrain other laws. In addition, in the wake of social, political, and economic development, and changes in objective conditions, constant revision and fine-tuning work has been required in legislative practice, which has ensured that occupational safety and health work in all industries and occupations has been included in national occupational safety and health laws. Key points of revisions to Taiwan's occupational Safety and Health Act are as follows [20]:

1) Subjects of protection

During the early part of the legislative process, this Act took "laborers employed to engage in work and receiving wages" as its legislative subject, and sought to ensure "everyone enjoys a healthy and safe working environment" as a right reflecting the spirit of international conventions concerning economic, social, and cultural rights. The Act therefore changed its subject from "laborers" to "workers", which ensured that laborers employed to engage in work and receiving wages no longer formed the sole subjects of this Act's protection. With regard to the implications of the use of "workers", Article 2 of this Act states that "workers refers to laborers, self-employed workers, and other persons engaging

in labor under the direction or supervision of the workplace's statutory responsible person." Apart from hired workers, this expands the scope of protection as far as "self-employed workers", vocational training organization trainees, and even volunteers engaging in labor.

2) Scope

While the original scope of the Occupational Safety and Health Act encompassed only around 65% of all workers, the further 2013 revision enlarged the scope of Article to include all industries and occupations. Furthermore, in view of risk factors connected with different industries' and occupations' formats, scales, natures, and workplaces, and the fact that some operating formats, management systems, and work characteristics make it difficult to apply the Occupational Safety and Health Act, the central competent authority has been granted the power to specify and announce a scope of partial applicability in view of an industry's or occupation's scale, nature, and hazards.

The Ministry of Labor therefore announced the "Standards Governing the Scope of Industries to which Certain Regulations of the Occupational Safety and Health Act are Applicable" on September 26, 2014. These Standards publicly announced those government agencies, representative bodies, the defense affairs industry, international organizations and foreign organizations, religion organizations, and political groups will be subject to the Act after implementation of the current Act. The Standards also specify that enterprise with fewer than 5 workers, and, addressing the characteristics of workers, specify that inmates at government crime and corrective agencies and other places of detention, professional sports athletes, sports referees and judges in other sporting industries, full-time missionary personnel of religious organizations, and household service personnel shall be included within the scope of applicability.

3) Source management

In recent years, international organizations have variously taken concrete action to address issues such as workers' mental and physical health, chemical product use safety, and the inherent safety design of machinery, equipment, and apparatus, and have made substantial progress. For instance, World Health Organization (WHO) has promoted global worker health action plans (from 2008 to 2011 legal), the UN has approved the Strategic Approach to International Chemicals Management (SAICM, 2006-2020), the International Standards Organization (ISO) has drafted international safety standards for machinery (1992), and the International Labor Organization has announced an occupational health service convention (1985), chemical product convention (1990), and occupational safety and health framework convention (2006). As a consequence, with regard to the implementation of risk assessment during the design, manufacturing, or import of machinery, equipment, apparatus, raw materials, and other parts and materials, and during project design or construction, the current revision prescribes risk assessment during the design, manufacturing, import, or construction planning stage, in an effort to prevent the involvement of such

items in occupational accidents during use or project construction.

In addition, this revision prescribes that employers with workers engaging in work shall adopt necessary preventive equipment or measures within a reasonable, feasible scope to ensure that the workers can avoid occupational accidents; the scope of the Act has also been expanded to all occupations and industries, including cases such as when journalists are reporting from outside their office and when insurance salespeople visit customers for sales purposes, in which workers are not within the scope of control or management by their employer. Employer must adopt necessary preventive measures reflecting the workers' situation before workers engage in their duties. Although hazards existing in such work may not be regulated by existing laws and regulations, employers must, as much as is reasonably feasible, first perform a self-assessment of risk and adopt preventive actions. The following aspects must be considered when adopting general preventive actions: a) That the hazard indeed exists; b) The hazard can be confirmed; c) Such hazards will cause or may cause workers severe injury or death; d) Such a hazardous situation can be improved, or the goal of hazard prevention can be reasonably achieved.

4) Health and safety facilities

In accordance with the regulations of the Occupational Safety and Health Act, in order to prevent machinery- and equipment-related hazards, employers must have necessary health and safety equipment and measures in compliance with regulations. With regard to manufacturers, importers, suppliers, and employers, if the construction, performance, or protective measures of machinery, equipment, or apparatus designated by the central competent authority failed to meet safety standards, such items may not be produced and leave the plant, imported, leased, supply, or established. In the case of new chemical substances, controlled chemical products, and chemical products with prioritized management, the revision has added the requirement that manufacturers, importers, suppliers, and employers handling hazardous chemical products must provide or post safety data sheets and prepare checklists, adopt general preventive measures, and assess risk grade and adopt grading management measures in accordance with the degree of hazard, state of dispersal, and amount used. To strengthen supervision, petrochemical firms engaged in petroleum refining must regularly perform process safety assessment and report results to the labor inspection organization for filing.

5) Health and safety management

In accordance with the regulations of the Occupational Safety and Health Act, in order to prevent machinery- and equipment-related hazards, employers must have necessary health and safety equipment and measures in compliance with regulations. With regard to manufacturers, importers, suppliers, and employers, if the construction, performance, or protective measures of machinery, equipment, or apparatus designated by the central competent authority failed to meet safety standards, such items may not be produced and leave the plant, imported,

leased, supply, or established. In the case of new chemical substances, controlled chemical products, and chemical products with prioritized management, the revision has added the requirement that manufacturers, importers, suppliers, and employers handling hazardous chemical products must provide or post safety data sheets and prepare checklists, adopt commonsense preventive measures, and assess risk grade and adopt grading management measures in accordance with the degree of hazard, state of dispersal, and amount used. To strengthen supervision, petrochemical firms engaged in petroleum refining must regularly perform process safety assessment and report results to the labor inspection organization for filing.

4.3. Comparison of Occupational Safety and Health Supervision and Management, and Recommendations

The two basic statutes underpinning their respective occupational safety and health system and examined in this article refer to Taiwan's occupational Safety and Health Act and Mainland China's Production Safety Law. Taiwan's Occupational Safety and Health Act, which prescribes a based on employer responsibility, contains a total of 6 chapters and 55 articles; excluding the chapters concerning general principles and supplementary provisions, the remaining four chapters are: Health and Safety Facilities, Health and Safety Management, Supervision, and Inspection and Penalties; The framework based on Mainland China's Production Safety Law, takes production safety as its central theme, and employs "human-centered" as its core concept. This Law contains 7 chapters and 114 articles. Apart from those portions identical or similar to sections of Taiwan's Occupational Safety and Health Act, the Production Safety Law also includes two chapters respectively concerning the rights and duties of working personnel and first aid, investigation and handling in the case of production safety accidents (see the comparison of legal systems in **Table 1**).

This comparison is in fact very meaningful. To make a comparison of the number of statutes in the occupational safety and health regulatory system of Mainland China and Taiwan and the supervisory and management matters in the content of the statutes, we can see differences in the major content of Mainland China's Production Safety Law and Prevention Law for Occupational Disease, and Taiwan's occupational Safety and Health Act in the comparative table of occupational safety and health supervisory matters shown in **Table 2**. Apart from explicitly requiring the adoption general protective measures in the case of hazardous chemical products and registration in the case of new chemical products, the remaining different items, such as operating permits and equipment inspection all concern inspection review and inspection regulations, so there are no very great differences in this part. The following is an explanation of specific differences between the two systems [6]:

1) Health and safety management

In accordance with Mainland China's Production Safety law and Prevention Law for Occupational Disease, safe production design and usage should be

Table 1. Comparison table of occupational safety and health regulations between Mainland China and Taiwan.

Order	Mainland China	Taiwan
1	General Articles 1 to 16.	General Articles 1 to 5
2	Safety production guarantee for production and business units Articles 17 - 48	Safety and sanitation Articles 6 - 18
3	Practitioners' safety production rights obligations Articles 49 - 58	
4	Supervision and management of production safety Articles 59 - 75	Safety and health management Articles 19 - 34 Supervision and inspection Articles 35 - 39
5	Emergency rescue and investigation and handling of production safety accidents Articles 76 - 86	General measures and hierarchical management of hazardous chemicals
6	Legal liability Articles 87 - 111	Penalty Articles 40 - 49
7	Supplementary Articles 112 - 114	Supplementary Articles 50 - 55

adopted during the design and construction stage in the case of the safety facilities of the new construction, renovation, or enlargement projects of production and business operation entities. The cost of safety and occupational disease control facilities should be included in the relevant construction project budget. In accordance with the “three simultaneities” in construction projects, safety facilities and occupational disease prevention facilities must be designed, constructed, and enter production or use simultaneously with the main project.

In addition, the design of protective facilities in construction projects with major risk of occupational disease and injury must be reviewed by the production safety supervision and management agency, and must comply with national occupational health standards and health requirements, before they may be built. When inspection is performed at the conclusion of construction project occupational disease protection facilities must be accepted by the production safety supervision and management agency before the project can enter formal production or use.

In contrast, Taiwan's occupational Safety and Health Act does not prescribe that health and safety facilities must be designed, built, or enter production or use simultaneously with the buildings they are in, and there is no need to obtain review or acceptance by the occupational safety and health agency. Here, Mainland China's regulations are worthy of consideration by Taiwan.

Table 2. Comparison table of occupational safety and health supervision matters between Mainland China and Taiwan.

Order	Supervision and management	Mainland China	Taiwan
1	Workplace	three simultaneities	No requirement
2	Management fees	Safety production capital investment	No requirement
3	Work permit	Permit approval	Work permit for hazardous workplaces
4	Equipment inspection	Safety equipment inspection & inspection	Source management and type verification of mechanical equipment
5	Hazardous chemicals management	Control of dangerous goods	General measures and hierarchical management of hazardous chemicals
6	Operating environment monitoring	Occupational hazard monitoring	Operating environment monitoring
7	Labor health	health examination	Labor health
8	Safety and health management	Safety production management	Safety and health management and automatic inspection
9	Education Training	Education and training	Education Training
10	Disaster prevention	Accident emergency rescue	No requirement

2) Management expenses:

The laws of Mainland China specify that production and business operation entities must possess safe production conditions, and the necessary funds must be provided; employing units must also ensure that funds needed for control of occupational disease can be immediately committed. According to the explanation of the State Council's decision concerning further strengthening of production safety work, companies should set aside funds for safety expenditures, maintain production safety risk reserves, and pay on-the-job injury insurance premiums. According to the mandatory requirements of Mainland China's Production Safety Law and Prevention Law for Occupational Disease, companies must use production safety funds to strengthen health and safety facilities and equipment; In contrast, Taiwan only prescribes that vendors provide health and safety funding the contract requirements when engaging in public construction projects, and has no similar regulations. This regulation of Mainland China may serve as a reference for similar future legislation in Taiwan.

3) Monitoring of the operating environment:

Regulations concerning monitoring of the operating environment are generally the same in Mainland China and Taiwan. However, Taiwan requires em-

employers to establish their own operating environment monitoring organizations to perform monitoring, and such employers may also commission a monitoring organization approved by the central competent authority to perform such tasks, and may hire approved monitoring personnel to check items designated by the central competent authority is not requiring analysis and monitoring by a monitoring organization; For its part, Mainland China prescribes that such monitoring must be performed by an occupational health technical service organization established in accordance with production safety testing and inspection organization management regulations [8], and having qualifications approval from the State Council's production safety supervision and management agency or a production safety supervision and management agency of a local government at the level of city or above with jurisdiction over the area. While Mainland China makes this a mandatory requirement, Taiwan allows relatively large room for flexibility.

4) Labor health:

Mainland China and Taiwan both prescribes that business unit must perform health checkups of their workers, and shall take appropriate action in the case of workers suffering from occupational diseases. However, Mainland China prescribes health checkups before workers take their jobs, while they are at their jobs, and after they have left their jobs, and also specifies that worker's labor contracts may not be dissolved or terminated before the workers have received occupational health checkups at the time of leaving their jobs. Because Mainland China's requirements are more comprehensive than Taiwan's, we recommend that this service a reference for future legal revisions in Taiwan.

5) Health and safety management

The laws and regulations of Mainland China and Taiwan uniformly contain regulations concerning the implementation of health and safety management, which reflect the occupational safety and health management system guidelines in ILO-OSH 2001 and OHSAS 18001 (referred to as OSHMS in Mainland China; and TOSHMS in Taiwan), and these are listed as national standards. With regard to applicable subjects, while China's Production Safety Law only specifies that mining and building construction units and hazardous materials production, handling, and storage units must establish safety management units to perform safety management, the Prevention Law for Occupational Disease requires all businesses without distinguishing their industry to assign health management personnel to perform health management; For its part, Taiwan requires the establishment of different management units to perform different degrees of management reflecting the enterprise's type and size. With regard to the health and safety management system, Mainland China does not require mandatory implementation, while Taiwan's laws explicitly require compulsory implementation only in the case of large hazardous industrial firms, hazardous chemical product industries, and the petrochemical industry.

6) Education & training

Mainland China and Taiwan both prescribe that employers have a duty to provide education & training to their workers, and workers have a duty to receive education & training. Training in Taiwan is subject to supervision and management by the central competent authority, but Taiwan lacks any regulations similar to those in Mainland China prescribing hierarchical management regulations for the central and local government levels. In addition, the content and length of education & training classes are determined in Taiwan's occupational safety and health education & training guidelines, and Mainland China's production and business operation entity safety training management regulations and production and business operation entity safety training management regulations [21] [22]. However, the scope of safety training in Mainland China is relatively broad: Apart from prescribing the same production and business operation entity working personnel, safety appraisal, consulting, testing, and inspection personnel, and need for production safety first aid personnel as in Taiwan, Mainland China's regulations also prescribe training activities for SAWS government personnel, instructors engaging in safety education & training work, registration personnel at hazardous chemical product registration organizations, and registration safety engineers.

7) Accident prevention and response:

Mainland China's Production Safety Law and Prevention Law for Occupational Disease both include comprehensive accident prevention and response regulations. Comparatively speaking, Taiwan's occupational Safety and Health Act and Labor Inspection Act both lack any requirement that government organizations or business units must establish accident prevention assistance organizations, and do not require that occupational safety and health agencies bear responsibility for occupational accident prevention and response. Methods of handling major occupational accidents are only briefly mentioned in Taiwan's Labor Inspection Act. And while regulations governing accident prevention and response are chiefly drawn from the Disaster Prevention and Response Act [23], the Occupational Safety and Health Act avoid mentioning this link. We therefore recommend that this suite be a focus of Taiwan's future revision and augmentation efforts.

5. Conclusions and Recommendations

5.1. Conclusions

In summary, while the occupational safety and health legal systems of Mainland China and Taiwan definitely contained many similarities, they also have numerous differences, and many of these differences have major impact on the rights and interests of companies and employers. As a consequence, we submit our views and recommendations concerning the following three aspects:

1) Legal system:

- The fact that Mainland China addresses safety and health in two separate statutes will not facilitate the establishment of a full-scale national manage-

ment system for the prevention of occupational hazards. In comparison, since it includes both safety and health within the Occupational Safety and Health Act, Taiwan will not face this problematic issue. Furthermore, Taiwan's separation of the Labor Inspection Act and Occupational Safety and Health Act parallels the separation of physical standards and procedural norms, and will tend to facilitate the development of the occupational safety and health system.

- Taiwan's "hybrid central" supervision and management model should be relatively free of the redundant assignment of inspection resources; In contrast, the hierarchical management by central and local governments adopted by Mainland China frequently gives rise to organizational redundancy and unclear separation of powers. This may cause companies to simultaneously face supervisory inspection or penalties from several different agencies. We recommend that Taiwanese or foreign capital enterprises perform a thorough assessment before investing in Mainland China, and draft response measures.

2) Supervision and management:

- Taiwan lacks anything similar to Mainland China's "three simultaneities" system. Much regulatory and academic discussion overseas [24] [25] [26] emphasizes that health and safety facilities should be designed, constructed, and enter production or use concurrently with the building projects with which they are associated. In order to strengthen occupational safety and health protection, we recommend that this regulation be added to Taiwan's regulations governing the review of hazardous workplaces.
- Mainland China's laws mandate that companies ensure production safety, and must provide occupational disease control funds. Taiwanese and foreign capital enterprises should consequently perform cautious assessment and faithfully budget these expenses before investing in Mainland China. We recommend that the requirement that companies involved in fields other than public construction ensure that a certain percentage of their capital budgets be used for labor health and safety management expenses be added to Taiwan's Occupational Safety and Health Act, which will serve to strengthen companies' occupational accident prevention consciousness.
- Mainland China's Production Safety Law and Prevention Law for Occupational Disease contained no explicit regulations concerning accident prevention and response; Accident prevention and response regulations are found only in Taiwan's Disaster Prevention and Response Act, and the Occupational Safety and Health Act surprisingly avoids this link. We recommend that new regulations be added to the Occupational Safety and Health Act, and prevention and response organization requirements be added to hazardous workplace review regulations.
- Taiwan's Labor Inspection Act allows search and seizure by police and investigative agencies only when there is suspicion of a crime; According to Mainland China's regulations, SAWS may perform search and seizure on its own

initiative, and make a decision concerning handling of the case within 15 days. Taiwanese or foreign capital enterprises should consider this aspect cautiously, and draft response measures.

3) Legal responsibilities:

- The regulations in the Production Safety Crime chapter of Mainland China's Criminal Law use many unclear concepts, and the most severe punishment is imprisonment of from 3 years to 7 years in severe cases. We recommend that Taiwanese or foreign capital enterprises wishing to invest or perform development in Mainland China remain vigilant and take protective measures aimed at avoiding severe punishment due to a moment of negligence.
- Mainland China's civil compensation responsibilities and other statutory compensation and insurance payments cannot be substituted from each other or mutually offset, as in the case of Taiwan's compensation, indemnification, and insurance payments, to ease the employer's liabilities. This may leave Taiwanese or foreign capital enterprises burdened with excessively heavy civil compensation responsibility. We therefore recommend that assessment be performed and response strategies drafted prior to investment or development in Mainland China.

5.2. Recommendations

In summary, the study of occupational safety and health issues plays an important role in safeguarding workers' occupational health rights, improving workplace environmental conditions, reducing safety production accidents and occupational hazards, and maintaining a good social order. By using literature research, text analysis, normative analysis, and comparative analysis to compare the overall legislation and specific legal content of cross-strait occupational safety and health laws, the Mainland can learn from Taiwan's occupational safety and health laws in the following aspects: abandon the legislative purpose. At present, it pays attention to the dual purposes of economy and society, and expands in the scope of application. From the compulsory supervision law to the social legislation that pays attention to performance in the type of legislation, it should deal with the laborer's overwork and mental stress in terms of the obligations of the operators. The health violations are regulated, and the protection of female workers should be changed from inclined legislation to authoritative legislation; in terms of workers' occupational safety and health rights, the scope of disclosure of information on illegal activities should be expanded to clarify the participation of trade unions and workers in the formulation of relevant The right to safety production rules and regulations, the restriction of laborers' emergency stoppage rights should change the thinking to "do not endanger the safety of other workers"; it should clarify the no-fault liability of operators in the field of occupational safety and health, and eliminate the current operators from undertaking work-related injury insurance. Responsibility applies to loopholes in fault liability. In addition, Taiwan can also learn from the Mainland's regula-

tions on occupational safety and health workers' rights, government supervision, social participation, and legal responsibilities. Such as increasing the laborer's right to refuse dangerous operations; encouraging operators to insure commercial production of safety production; increasing government enforcement measures; and raising the upper limit of occupational safety and health criminal offences.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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