

# Regulatory system reform of occupational health and safety in China

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**Abstracts:** With the explosive economic growth and social development, China's regulatory system of occupational health and safety now faces more and more challenges. This article reviews the history of regulatory system of occupational health and safety in China, as well as the current reform of this regulatory system in the country. Comprehensive, a range of laws, regulations and standards that promulgated by Chinese government, duties and responsibilities of the regulatory departments are described. Problems of current regulatory system, the ongoing adjustments and changes for modifying and improving regulatory system are discussed. The aim of reform and the incentives to drive forward more health and safety conditions in workplaces are also outlined.

**Key words:** China, Reform, Regulatory system, Occupational health and safety, Occupational health and safety management system

## Introduction

China has already overtaken Japan as world's second-largest economy. In the past decade, China's GDP growth averaged about 10% a year. China has achieved a rapid economic development, especially in industrial field. In 2010, China has become the world's largest manufacturer, with its manufacturing output surpassed the U.S. and Japan. Behind this rapid economic development, a huge working population is driving this country continues to make great strides in various fields. According to census figures released in April 2011 (China mainland), China's population has surpassed 1.33 billion<sup>1</sup>, with more than 700 million people in employed population<sup>2</sup>.

It was reported that over 200 million people suffered oc-

cupational hazards that existed in 16 million enterprises<sup>3</sup>. According to the statistic data from National CDC, 27,240 cases of occupational diseases were reported in 2010, which over twice of 13,218 cases reported in 2001. Of these, pneumoconiosis patient account for 94% and 679 people died as a result of this occupational damage<sup>4</sup>. Due to incompleteness of the reports, this may be the tip of a huge iceberg of health hazards in the workplaces. China has become the "world's factory floor" and his occupational health and safety laws, regulations and regulatory system are struggling to keep up with the current explosive economic growth and social development. This article is intended to comprehensively review the history of China's regulatory system of occupational health and safety, as well as the current problems and ongoing reform of this regulatory system in the country, and to provide suggestions for further regulatory direction.

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## Regulatory System of Occupational Health and Safety in the Past Decades

As for China, occupational health and safety is not a new issue. In the past 20 yr, the dramatic economic and social changes occurring in China are unprecedented in human history. Chinese people has experienced a rapid transition from rural agricultural society to urban industrial society, and the working population has faced many new types of industries and health hazards in such a short time. China's regulatory system of occupational health and safety has been trying to make suitable adjustments and even reform to deal with these changes. The government has promulgated a range of laws, regulations, and decrees that codify workers rights and health and safety protections.

The Labor Law was promulgated July 5, 1994, and became effective January 1, 1995. This Law is the basic body for adjudication of labor relations, and has established labor contract and group contract systems, a tripartite coordination mechanism for handling disputes, and a labor standard system<sup>5)</sup>. A labor supervisory system was also established by labor and social security administrative departments. Labor and social security administrative departments are authorized to regulate and inspect the labor contract between workers and employers, and provide social security for workers. In addition, a revised Trade Union Law was announced October 27, 2001. Trade union organizations have the right to participate in the coordination of labor relations and safeguard the rights and interests of workers. However, occupational health and safety issues in workplace were regulated and supervised by other government departments.

The framework of government regulation and enforcement has an important impact on regulatory system of occupational health and safety. In 2001 and 2002, China's legislature, the National People's Congress approved the Occupational Disease Prevention Law and the Safe Production Law, the laws both went into effect in 2002. As seen in Fig. 1, these two important laws respectively authorize the health administrative department and work safety administrative department to assume their duties and responsibilities<sup>6, 7)</sup>. Health administrative department regulate and supervise the affairs of occupational disease prevention and control, including occupational health standards establishing, occupational health examination and surveillance, occupational diseases diagnosis, treatment, surveillance and report, identifying toxic chemicals, labor protection for using toxic substances in workplace,

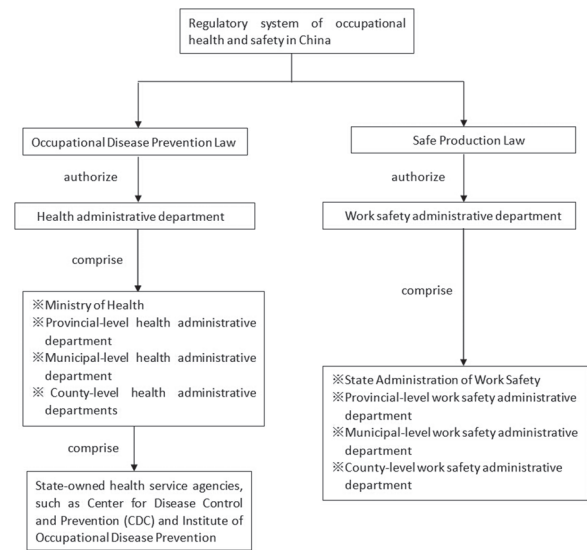


Fig. 1. China's regulatory system of occupational health and safety.

protection against radioisotopes and radiation-emitting apparatus, occupational hazards evaluation in workplace, supervision on medical and occupational health service agencies, providing support to the research of occupational disease prevention and control, "three simultaneous" management of occupational health in construction project. Work safety administrative department's duties and responsibilities mainly include work safety standards establishing, occupational hazards reporting, rescue in times of accidents, accident investigation, safety of lives and properties, regulation on the production, operation, storage, transportation, and use of dangerous chemicals and disposal of the dangerous chemical waste, "three simultaneous" management of work safety in construction project.

## Regulatory System of Occupational Health

The nationwide regulatory system of health administrative department, from the central government to the local county government, comprises Ministry of Health, provincial, municipal, and county-level health administrative departments. In addition, center for disease control and prevention (CDC) and institute of occupational disease prevention at all levels are very important health service agencies that affiliated to this regulatory system. These agencies are under the supervision of health administrative department, and their scope of work covers the occupational health standards establishing, occupational health examination, occupational diseases diagnosis, treatment,

**Table 1. The number of occupational disease cases reported of individual year**

Year	The number of occupational disease cases reported
2005	12,212
2006	11,519
2007	14,296
2008	13,744
2009	18,128
2010	27,240
2011	29,879
2012	27,420
2013	26,393

surveillance and report, occupational hazards evaluation of construction project, studies of occupational diseases control and prevention. For example, the institutes of occupational disease prevention at all levels provide technical support and collaborate with hospitals for the treatment of occupational diseases and occupational poisoning. The National CDC established a nationwide network reporting system for occupational diseases case registration. Each case found of occupational diseases and occupational poisoning will be registered through this system, and such health-related data will be finally reported to health administrative department. "Occupational disease" in the law refers to diseases resulting from industrial dust, poisonous substances, radioactive substances and other harmful substances in the workplace. The occupational disease is defined by Ministry of Health and Ministry of Labor and social security, which jointly defined and published the "Category and List of Legal Occupational Diseases" in April 18, 2002. The list of occupational diseases includes 115 diseases in ten categories. The latest version of the "Category and List of Legal Occupational Diseases" was defined and published in December 23, 2013. The new list now includes 132 diseases in ten categories, and the list come into effect at the beginning of 2014<sup>8)</sup>. As seen in Table 1, according to annual national occupational disease report from Ministry of Health, statistic data of occupational disease cases reported for the year from 2005 to 2013 show that the cases has been increasing yearly. This increasing may due to the health risks along with China's rapid economic development and industrialization. On the other hand, the regulatory system reform did not keep up with this change may be a reason.

In China, each occupational health service agencies, such as CDC, institute of occupational disease prevention, and other specific hospitals, must be accredited by health

administrative department. As of 2007, there were 4,211 industrial physicians in nationwide occupational health service agencies. As of 2013, there were 3,437 occupational health examination agencies and 603 occupational diseases diagnosis agencies in China mainland<sup>9)</sup>. Besides providing occupational diseases diagnosis and treatment, occupational health service agencies draft occupational health standards under the guidance of health administrative department. As of 2011, China had issued 398 workplace health standards for occupational hazardous agent exposure, including 339 for chemicals, 47 for particulates and dusts, 2 for biological agents and 10 for physical factors<sup>10, 11)</sup>. These occupational exposure limits of hazardous agents are designated as PC-TWA (permissible concentration-time weighted average), PC-STEL (permissible concentration-short term exposure limit) and MAC (maximum allowable concentration). In addition, China has also published several technical standards for monitoring airborne hazardous agents in workplace. To make the best of protective measures, a revised hygienic standard for the design of industrial enterprises was promulgated in 2010. According to this standard, from the beginning of design and construction phases, industrial enterprises must consider and pay attention to the protective facilities and measures for preventing any possible occupational hazards exposure, and provide standards-compliant work environment for workers<sup>12)</sup>. Health administrative department regularly carry out evaluation of occupational hazards so as to make sure the implementation of these standards. Furthermore, Health administrative department is also authorized by Occupational Disease Prevention Law to require enterprises to follow the "three simultaneous" management system of occupational health in construction project. This management system require enterprise's occupational health protective facilities and measures must be designed, built and used simultaneously with the design, construct and completion phases of factory building.

### Regulatory System of Occupational Safety

The nationwide regulatory system of work safety administrative department comprises State Administration of Work Safety, provincial, municipal, and county-level work safety administrative departments. Not like health administrative department's focusing on occupational disease prevention and control, work safety administrative department is mainly responsible for the safety of lives and properties in workplace, work safety standards establishing, work safety assessment, rescue in times of

**Table 2. Incidents of safety accidents of individual year**

Year	The number of safety accidents	Death tolls of safety accidents
2004	803,573	136,755
2005	717,938	127,089
2006	627,158	112,822
2007	506,376	101,482
2008	414,174	91,176
2009	379,244	83,196
2010	363,383	79,552
2011	347,728	75,572

accidents, accident investigation, regulation of dangerous chemicals such as combustibles, explosives, radioactive substances and highly toxic substances. In 2004, the State Council promulgated Safety Production Permit Regulations, and the revised version was promulgated in 2013<sup>13</sup>. The regulations explicitly require that before officially running production, industrial enterprises must obtain safety production permit from provincial-level work safety administrative department. In addition, Regulations on Labor Protection against Toxic Substances in Workplace was promulgated by the State Council in 2002. According to the Regulations, enterprises without occupational health and safety permit cannot initiate the production that involved toxic materials<sup>14</sup>. As of June 2008, there were approximately 60,000 law enforcement officers in nationwide work safety administrative departments<sup>15</sup>, this result in only approximately one government inspector for every 12,000 workers. This law enforcement team regularly inspects industrial enterprises, carry out work safety assessment and check safety production permit and occupational health and safety permit so as to urge enterprises strictly follow the work safety standards and regulations. Besides, enterprises are required to implement the “three simultaneous” management system of work safety in construction project. Enterprise’s work safety protective facilities and measures must be designed, built and used simultaneously with the design, construct and completion phases of factory building. As seen in Table 2, according to public information<sup>16, 17</sup>, the number of safety accidents and death tolls of safety accidents for the year from 2004 to 2011 had been decreasing year by year. The category of safety accident is defined by statistical list from the State Administration of Work Safety and National Bureau of Statistics. The statistical list includes coal mining accident, metal and non-metal mining accident, chemical industry accident, construction industry accident, metallurgical industry accident, machinery manufacturing industry ac-

cident, traffic accident, fire accident, commercial and trade accident, and other categories of accidents. The declined number of safety accident in recent year may due to the government apparently improve its law enforcement and strengthen safety supervision and inspection, and the other reason probably is that China has obtained obvious progresses of science and technology in industry, transportation system and other areas. In addition, China’s industrial structure has experienced a rapid and sustainable transition from light industry to heavy industry, this structure change may require enterprises to use and apply high efficiency and more advanced production technology<sup>18</sup>. In consequence, progresses in science and technology can restrain occurrence of safety accident.

### Problems of Occupational Health and Safety Regulatory System

In China, Occupational Disease Prevention Law and the Safe Production Law are the two basic laws for supervision of occupational health and safety. The regulatory framework of occupational health and safety mainly include health administrative department and work safety administrative department. These two regulatory departments are both authorized by laws and respectively assume their duties and responsibilities. These mean that occupational health and occupational safety, from the perspective of legislation and supervision, are separated. Lack of harmonized legislation and unified supervision would result in the conflict of regulatory departments’ function and poor coordination. Enterprises sometimes would confuse that which department assumes regulatory function, and regulatory vacuum would be induced because of this status. For instance, regulation of occupational hazard program declaration was promulgated by the Ministry of Health in March 28, 2002<sup>19</sup>. This regulation requires enterprises to report their possible occupational

**Table 3. History of the law/policy making of occupational health and safety in China**

Time course	Law/policy-making agencies	Law/policy	Relevant departments
1992	National People's Congress	Trade Union Law	Trade Union
1994	National People's Congress	Labor Law	Labor and social security administrative department
2001	National People's Congress	Revised Trade Union Law	Trade Union
2001	National People's Congress	Occupational Disease Prevention Law	Health administrative department
2002	National People's Congress	Safe Production Law	Work safety administrative department
2002	The State Council	Regulations on Labor Protection against Toxic Substances in Workplace	Health administrative department
2003	State Commission Office of Public Sectors Reform	Notice on the arrangement of internal organization of State Administration of Work Safety	State Administration of Work Safety
2004	The State Council	Safety Production Permit Regulations	Health administrative department
2005	Ministry of Health, State Administration of Work Safety	Notice on the arrangement of occupational health regulatory responsibilities	Health administrative department, Work safety administrative department
2010	State Commission Office of Public Sectors Reform	Notice on the arrangement of occupational health regulatory departments' responsibilities	Health administrative department, Work safety administrative department
2011	National People's Congress	Revised Occupational Disease Prevention Law	Health administrative department, Work safety administrative department
2013	the State Council	Revised Safety Production Permit Regulations	Work safety administrative department
2014	National People's Congress	Revised Safe Production Law	Work safety administrative department

hazard to health administrative department. But the State Administration of Work Safety promulgated the regulation of workplace's occupational hazard declaration in September 8, 2009<sup>20</sup>). This regulation also requires enterprises to report their possible occupational hazard to work safety administrative department. These two regulations comprised the same substance. This status may induce the conflict of duties between these two departments. Even regulatory vacuum would happen when enterprises trying to evade supervision of regulatory department. In fact, the separation of occupational health and occupational safety may cause ineffective convergence of occupational hazards source management, early prevention, process management and consequences response. The ineffective convergence in the enforcement of occupational health and safety laws may weaken the supervision capacities. Now this situation calls for intensified and unified rectification, and further stepping to an integrated regulatory system. As for China, that would be a powerful incentive to reform its current system.

### Current Reform of Occupational Health and Safety Regulatory System

Seen in Table 3, As a matter of fact, in the past 10 yr, China has made several adjustments and reform for improving its occupational health and safety regulatory

system. In 2003, the central government decided to transfer part of regulatory functions from health administrative department to work safety administrative department. For instance, health administrative department no longer inspected and supervised occupational health in workplace, and work safety administrative department began to take over the regulatory functions of occupational health and occupational safety. 2 yr later, Ministry of Health and State Administration of Work Safety jointly issued a notice with regard to the arrangement of occupational health and safety regulatory functions.

This notice first time explicitly arranged the regulatory functions of health administrative department and work safety administrative department<sup>21</sup>). Health administrative department's regulatory functions included occupational health standards establishing, occupational health examination and surveillance, occupational diseases diagnosis, treatment, surveillance and report, identifying toxic chemicals, labor protection for using toxic substances in workplace, protection against radioisotopes and radiation-emitting apparatus, occupational hazards evaluation in workplace, supervision on medical and occupational health service agencies, providing support to the research of occupational disease prevention and control, "three simultaneous" management of occupational health in construction project, and so on. Work safety administrative department's regulatory functions included inspection



and supervision of occupational health and safety in workplace, occupational hazards reporting, rescue in times of accidents, accident investigation, work safety standards establishing, work safety assessment, regulation on the dangerous chemicals, “three simultaneous” management of work safety in construction project, issuance of safety production permit and occupational health and safety permit. In 2010, the central government issued a notice to adjust occupational health and safety regulatory system<sup>22</sup>. Parts of regulatory functions of health administrative department, for instance, occupational health examination and surveillance, supervision on occupational health service agencies, “three simultaneous” management of occupational health in construction project were transferred to work safety administrative department. In 2011, a revised Occupational Disease Prevention Law was promulgated by the National People’s Congress. The revised version legislatively adjusted regulatory functions of health administrative department and work safety administrative department, and provided a legal basis for these two departments to assume their duties and responsibilities more clearly.

## Conclusion

In the past 20 yr, China has grown to become the world’s largest producer and stepped forward to industrialization. China has been trying to make suitable adjustments and reform to modify his occupational health and safety laws, regulations and regulatory system. The incentive to reform this regulatory system is that China now faces more and more challenges from controlling occupational diseases and work safety problem and protecting worker’s rights. The aim of this reform is likely to establish an integrated regulatory system of occupational health and safety, and improve regulatory efficiency. Millions of factories in China need more stringent supervision, and hundreds of millions of workers’ rights and interests should be protected by the State. The government should generate political will to strictly enforce the prior and newly-established occupational health and safety standards and laws. In addition, necessary financial, human, and technical resources should be devoted to the regulatory system. Finally, given the size and complexity of China’s varied workplaces, effective policies cannot be implemented and maintained without the active participation of “three key actors”—employers, the government, and workers. The “three key actors” must continue to participate in regulatory system to drive forward more health

and safety conditions in workplaces.

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