

Occupational Health and Safety Legislation and Implementation in China

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This article reviews the current statistics of employment and work-related injuries and illness in China, as well as the history of occupational health and safety legislation in the country. Comprehensive, newly promulgated workplace health and safety legislation is described, and the specific responsibilities of employers, government agencies, trade unions, and employees are detailed. The government's implementation plan for this and prior legislation is also outlined. *Key words:* China; legislation; occupational health and safety.

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China is a developing country, with more than 700 million people in its working population. In the past five decades, especially in the last 20 years of reform and opening to the outside world, China has made great strides in developing its national economy. The gross domestic product reached RMB 9,593.3 billion Yuan in 2001, up 7.3% over the previous year in comparable prices. In the present era of economic globalization, the world's economies have grown increasingly interdependent. As a result, China has taken measures to adapt to the global economy, especially since its accession to the World Trade Organization (WTO) in November 2001.

EMPLOYMENT AND STRUCTURE

By the end of 2001, the country's population had reached 1.27627 billion (excluding the populations of the Hong Kong and Macao special administrative regions and Taiwan Province), and 730.25 million people were employed, accounting for 77.03% of the total labor force. Employees in urban areas accounted for 32.8% of the total, and those in rural areas for 67.2%. From 1978 to 2002 the number of employees in urban and rural areas increased by 328.73 million, of which 144.26 million were urban employees. The unemployment rate on record in urban areas was 3.6%.

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The employment structure has changed dramatically. The employment percentage of primary industries has dropped markedly, while percentages for secondary and tertiary industries have risen rapidly. In 2001, employees in the primary, secondary, and tertiary industries accounted for 50%, 22.3%, and 27.7%, respectively. Employees of state and collective enterprises and institutions accounted for 37.3% of all urban employees in 2001, down from 99.8% in 1978. Meanwhile, the number of employees of private, individually owned, and foreign-invested enterprises has increased drastically.

In the countryside, the household is still the dominant unit of agricultural employment. However, rural reform has greatly raised agricultural productivity, and the surplus agricultural labor force has started to flow from agriculture to industries, from rural to urban areas, and from western inland to eastern coastal areas. Since the 1990s, the labor force transferred from rural to urban areas has topped the 80-million mark. Meanwhile, the number of employees of township enterprises had reached 128.20 million by the end of 2000.

This comprehensive economic and social transition inevitably poses tremendous challenges for occupational health and safety.

CHALLENGES FOR OCCUPATIONAL HEALTH AND SAFETY

In 2001, the Ministry of Health received reports of 13,218 cases of occupational diseases, a 13% increase over 2000. Of these, 2,352 died as a result of the occupational damage. Due to incompleteness of the reports, this is only the tip of a huge iceberg of health hazards in the workplaces in China. The actual situation may be far worse. For example, according to a nationwide sample survey of occupational health of workers in 19,527 enterprises in 28 provinces, autonomous regions, and municipalities in 2002, percentages of enterprises that provided workers with personal protective equipment (PPE) were: state-owned, 78%; city collective-owned, 71.6%; and private, only 49.6%. Employers that provided workers exposed to occupational hazards with periodic health examinations amounted to 57.2% for state-owned enterprises and only 1.9% for private enterprises and 2.7% for foreign-invested enterprises. Workplace ventilation equipment rates were: 82.1% for state-owned enterprises; 66.7% for city collective-owned enterprises; 55.1% for

private enterprises; and 69.5% for foreign-invested enterprises.

Data from State Administration of Production Safety (SAPS) show that during the period January–November 2002, a national total of 980,689 death/injury-involving accidents of all categories occurred throughout China, resulting in the loss of 124,581 lives. Of this total, road transport accidents accounted for about 70%, which caused 80% of the losses of lives. Accidents such as a methane gas explosion in a coal mine in Jixi in northeast China on June 20, 2002, also resulted in tremendous losses.

During this upsurge of economic development, China's occupational health and safety structure is facing serious challenges: Lack of work safety awareness, backward infrastructure, and loopholes in management and strict supervision have resulted in a continuing cycle of accidents and a serious prevalence of occupational diseases, which have caused great losses in terms of both lives and assets. And other important factors should not be neglected: 1) the rapid transfer of the labor force from agricultural to non-agricultural work in rural areas; 2) the continued migration of hazardous industries from urban to rural areas, and also from developed areas to less developed areas; 3) the shortages of occupational health professionals and technologic resources; 4) the inconsistency in the enforcement of health and safety laws which calls for intensified monitoring, inspection, and rectification measures to improve the situation.

LEGISLATION OF OCCUPATIONAL HEALTH AND SAFETY REGULATIONS

Since the 1990s, the Chinese Government has explicitly mandated the establishment of a socialist market economy under the rule of law.

The Labor Law of the People's Republic of China was promulgated July 5, 1994, and was effective as of January 1, 1995. The Law is the basic body for adjudication of labor relations, and has established labor contract and group contract systems, a tripartite coordination mechanism, a labor standard system, a system for handling disputes, and a labor supervisory system, basically shaping a new approach to labor relations in consonance with the socialist market economy.

Since the 1994 Labor Law, several other important laws and regulations have come into force.

Laws Adopted by the Standing Committee of the National People's Congress

The Law of the People's Republic of China on Occupational Disease Prevention and Control (hereinafter referred to as "Occupational Disease Control Law"), was promulgated on October 27, 2001, and put into effect May 1, 2002.

The Law of People's Republic of China on Safe Production (hereinafter referred to as "Safe Production Law") was promulgated June 29, 2002, and became effective November 1, 2002. This Law has 97 provisions covering work units' safety measures, the rights and interests of workers, supervision and management of production safety, rescue work in times of accidents, accident investigation, and legal liabilities.

Regulations Promulgated by the State Council

The Regulations on Safe Management of Dangerous Chemicals have as their purpose the strengthening of control over safety measures related to exposures to dangerous chemicals, to guarantee the safety of lives and properties, and to protect the environment. They regulate the production, operation, storage, transportation, and use of dangerous chemicals and disposal of the dangerous chemical waste within the People's Republic of China.

The Regulations on Labor Protection for Using Toxic Substances in Workplace supplement the Occupational Disease Control Law, further enhancing control of occupational poisonings. Enterprises whose operations involve exposures to highly toxic substances must be licensed by governmental health authorities. A list of the toxic substances existing in workplaces shall be defined, modified, and published by the Ministry of Health, joined with other Departments under the State Council concerned.

The Regulations on Protection against Radioisotopes and Radiation-emitting Apparatus strengthen the supervision and management of protection from radiation hazards with regard to radioisotopes and radiation-emitting apparatus, to ensure the health and safety of workers and the general public, to protect the environment, and to promote the application and development of radiation technologies. These regulations apply to all institutions and individuals that engage in the production, use, or sale of radioisotopes or radiation-emitting apparatus.

In addition, there are stipulations in the Criminal Law of the People's Republic of China for relevant criminal violations.

Occupational Disease Control Law

The Law of the People's Republic of China on the Prevention and Control of Occupational Diseases was adopted by the 9th PRC National People's Congress on October 27, 2001, and became effective as of May 1, 2002. The law defines the occupational health rights of workers, the obligations and duties of employers to protect the health of their employees, the responsibilities of the governments at various levels, and trade unions' representation in workers' health protection. The law stipulates basic principles governing the prevention

and control of occupational disease, protective measures, hazards monitoring and management in workplaces, diagnosis of occupational disease, health authority inspections, and the liabilities incurred by those violating the law.

Legal definition of occupational diseases. “Occupational disease” in the law refers to diseases resulting from exposures of workers to industrial dusts, radioactive substances, and other poisonous and harmful substances in the workplace. To specify the occupational diseases covered by this law, the Ministry of Health in conjunction with the Ministry of Labor and Social Security is entitled to define, amend, and publish the “Category and List of Legal Occupational Diseases.” Workers incurring the listed diseases are eligible for “Occupational Disease Compensation” (a kind of industrial injury compensation). The current list of occupational diseases includes 115 diseases in ten categories (Appendix).

Put prevention first, and prevention and control combined. Based on a consensus that most occupational diseases are incurable but preventable, preventive strategy is vital. The law emphasizes that governments at various levels should formulate occupational disease prevention and control plans, integrate them into their comprehensive economic and social development plans, and put them into practice.

The workplace should meet the basic occupational health requirements, including:

- Control of the intensity or concentration of an occupational hazardous substance in compliance with the national occupational health standards
- Institution of appropriate occupational-disease-prevention facilities
- Rational production layout in compliance with the principle of separating harmful from harmless operations
- Deployment of appropriate sanitation facilities such as dressing rooms, bathhouses, and rest rooms for pregnant women
- Ensuring that equipment, tools, and appliances comply with requirements for protecting the well-being of workers
- Other requirements established by laws, regulations, and administrative rules related to workers’ health protection published by the health authority under the State Council

To reduce the potential for producing new occupational hazards as much as possible, the law requires that all new construction, expansion, and rebuilding of premises and technical transformation and import projects, which could produce occupational hazards when put into operation in the future, simultaneously have occupational hazard control installations designed, constructed, and put into use/operation

with the main part of the projects. The owner of the project should conduct preventive assessment at the stage of feasibility study of the project, and submit the preventive assessment report to government health authorities for approval. Before any installation is begun, the owner or employer should assess its effects on occupational hazard control, and apply to the health authority for an acceptance check. No project can be put into operation if it does not satisfy the acceptance check or fails to meet the occupational health standards.

No-one is allowed to transfer a project or operation that might entail occupational hazards to a second party (organization or individual) that cannot effectively protect its workers from occupational diseases and injuries.

Protecting workers’ health by safeguarding their rights and interests in workplaces. The law clearly prescribes the occupational health rights of workers in the workplace:

- The opportunities to receive occupational health education and training
- Access to occupational health services (e.g., health examinations, occupational disease diagnosis, and rehabilitation)
- The right-to-know of the health effects of hazards in the workplace and how to protect from work-related harm
- The opportunity to request and claim improvement of working conditions and personal protective equipment
- The right to criticize and accuse perpetrators of malpractices that violate the law and regulations and harm health
- The right to reject illegal orders and commands to undertake operations without appropriate safeguard measures
- The right to participate in the democratic management of the employer’s occupational health practice, and make comments and suggestions with regard to the occupational disease prevention practices of the employer

Labor union should urge the employer to carry out the occupational health education and training, make comments and suggestions for the employer’s occupational-disease-prevention practice, and coordinate with the employer to solve problems identified by the workers with regard to occupational disease prevention. The labor union is entitled to demand rectification of the employer’s practices that violate the law and regulations or infringe upon workers’ legal rights; require the employer to take preventive measures or suggest the appropriate government agencies to take compulsive measures upon the occurrence of severe occupational-disease harm; get involved in the investi-

gation and settlement of occupational accidents; and suggest that the employer remove workers from hazardous sites upon the identification of conditions that endanger the life and health of workers. In response to such requests from the labor union, the employer should promptly adopt corrective measures.

Emphasizing the employer's duty to workers' health protection. Employers hold the primary responsibility for the health of their employees in workplaces and for occupational disease prevention and treatment. The law requires the employer to establish a system to protect health and safety. Specific responsibilities are listed below.

Effective measures should be taken for hazard control and occupational disease prevention. The employer should establish an occupational health organization staffed with full-time or part-time occupational health professionals for in-plant occupational health management and service; a plan and concrete programs for hazard control should be mapped out and put into practice; workplaces should be regularly monitored and evaluated for effective hazard control actions; occupational health records (of workplace hazard monitoring and workers' health examinations) should be complete and current; and an emergency rescue counterplan should be carefully prepared.

Workers who are exposed to hazardous factors at workplaces should have regular health examinations, including pre-placement examinations, periodical on-the-job examinations, and pre-departure examinations. The employer should pay for the health examinations and keep accurate health records, which will follow the workers from job to job so that when a worker is found to be damaged, health inspectors can trace where and when the damage occurred.

Employers have the responsibility to educate their workers. They should provide pre-placement and regular training courses to inform the workers about protection from specific occupational hazards and the need to adhere strictly to work safety rules. When negotiating or concluding an employment contract, the employer must inform the employee of any occupational diseases that may be contracted at work, the consequences thereof, and the measures adopted by the employer to protect against the harm. The employer must specify this information in the employment contract and must not conceal such information from or deceive the employee in any manner.

All expenses for prevention and control of occupational hazards, workplace monitoring, workers' health examinations, and occupational health training should be considered production costs.

Treatment of the victim of occupational disease. The diagnosis of occupational diseases should be undertaken by competent medical institutions that have been approved by the public health authority of the provincial or higher-level government. Workers can

apply for diagnosis of occupational disease to the competent medical institution at any workplace (employer) where they have ever worked, or where they live. Concerned employers are required by the law to provide health records of job applicants and relevant workplace monitoring data for the purpose of medical analysis. Any party concerned, worker or employer, that disagrees with the conclusion of the diagnosis can apply for an occupational disease diagnosis appraisal to the health authorities of the local government at the prefecture level first, and then, further, at the provincial level for a final decision.

Occupational disease victims are entitled to appropriate occupational-disease-related treatments and allowances in accordance with state regulations. The employer should have any occupational disease victim treated, rehabilitated, and regularly examined, and remove any such victim who is unfitted for the existing hazardous post to another job. Victims should be reimbursed according to state regulations applicable to the social security for work-related injuries. Apart from the social security premiums for the work-related injuries, the victim who is entitled to compensation according to applicable civil laws can claim for compensation from the employer.

When a worker has been identified as the victim of an occupational disease and the employer has not been involved in the umbrella of social security covering work-related injuries, the employer should bear the victim's medical cost and living cost. Provided that the current employer can prove that the said occupational disease has resulted from working for a former employer, the former employer should bear the cost. Thus, occupational disease sufferers changing workplace can also receive compensation. Upon divestiture, merger, dissolution, or bankruptcy, the employer should provide physical examinations for workers who are engaged in operations involving exposures to hazards and arrange for compensation of injured workers as needed.

ENFORCEMENT OF THE OCCUPATIONAL DISEASE PREVENTION LAW

The health departments of governments at the county level and above are empowered to inspect and supervise the efforts undertaken by employers in adopting protective measures against occupational diseases in the light of the law.

According to the law, employers who cause the poisoning accidents will be asked to compensate the victims and will be punished. If an employer commits any violation of the Occupational Disease Control Law, the health authority may issue a warning and order the employer to rectify the situation within a prescribed time limit, and may also impose a fine of up to RMB 500,000 Yuan, according to the circumstances. For a

serious infraction of the law, the health department may either order the employer to cease any part of its operations that endangers the health and safety of employees or request the relevant government to order the employer to shut down its workplace. Where criminal law is violated, the person chiefly in charge with liability and other directly responsible personnel shall be prosecuted for criminal liability according to the relevant provisions of the Criminal Law (1997). For example, Article 135 of the Criminal Law stipulates:

Where the facilities for operational safety of a factory, mine, tree farm, construction enterprise or any other enterprise or institution do not meet State requirements and no measures are taken to remove the hidden danger of accident after the warning given by the departments concerned or employees of the unit, so that an accident involving heavy casualties occurs or other serious consequences ensue, the person who is directly responsible for the accident shall be sentenced to fixed-term imprisonment of not more than three years or criminal detention; if the circumstances are especially flagrant, he shall be sentenced to fixed-term imprisonment of not less than three years but not more than seven years.

Health Inspection System

As early as 1954, when the nation began its industrialization, the central government had made the decision to establish a health inspection system to enforce the national health regulations and policies of industrial hygiene. The Health and Epidemics Prevention Stations (HEPSs) were authorized to implement health inspection on behalf of the public health authorities of the government. Since China started its reform in the 1980s, the market-oriented economy system and rule of law have been paramount. One of the important reforms in the health sector is "health administration system reform." The main points of the reform are strengthening the safeguard of the health rights of citizens and redirecting the major function of health authorities at various levels of governments to be enforcing the health laws. Thus, the health inspection has been separated from traditional HEPSs' functions, and a new institution called Institute of Health Inspection (IHI), directly affiliated with the health administrations of governments at various levels, was established. The main tasks of health inspection of governments relative to occupational health include:

- Audit and approval of preventive assessment of newly constructing, expanding, and rebuilding industrial premises and technical transformation and import projects that might produce occupational hazards
- On-site inspection of enterprises/workplaces for implementation of the law and hazard-control measures, and environmental monitoring, to ensure the

concentrations or intensities of occupational hazards in workplaces meet national industrial hygienic standards

- Checking whether the pre-placement and periodic health examinations of workers exposed to occupational hazards have been in compliance with national law and regulations
- Ensuring workers who are suffering from occupational diseases are properly treated, recuperate, and are transferred to other jobs suitable for them in line with related regulations
- Supervising occupational health record keeping and occupational disease reporting;

Occupational Health Service Delivery

In-plant service. Large state-owned enterprises have health and safety departments at the management level. Some these enterprises even have their own hospitals, which provide preventive and curative services, including health surveillance of workers for occupational safety and health purposes, evaluation of working capacity from the medical point of view, approval of sick leaves of workers, and environmental monitoring. And there are health care stations near the workplaces, which play an important role in first aid and occupational health education for workers.

Administrative division-based occupational health delivery. Provision of basic health service is one of the responsibilities of governments. In the early 1950s, a Health and Epidemic Prevention Station (HEPS) was established in every administrative division from provinces down to counties, which provided preventive medical services, including occupational health, environmental health, food hygiene, school health, and radiation protection, as well as control of communicable and some noncommunicable diseases. With the health administrative reform, the HEPS further strengthened its professional and technical support capacity in preventive medicine services, and has been renamed Center of Disease Control and Prevention (CDC). CDCs at different levels can provide occupational health services for medium-sized and small industrial enterprises that are not able to maintain in-plant occupational health and industrial hygiene services for their employees. Since the beginning of the 1980s, occupational health problems have been further recognized with the recovery of the national economy and industrialization. Hospitals for occupational disease prevention and treatment and occupational health institutions (OHIs) have rapidly been established in most provinces and some industrial sectors. To strengthen the national capacity for research, training, and coordination of occupational health service, the National Center for Occupational Disease Prevention and Treatment (NCODPT) was established in the Institute of Occupational Health and Poisoning Con-

trol, Chinese Center for Disease Control and Prevention (IOHPC/CCDC).

PRODUCTION SAFETY MANAGEMENT AND SUPERVISION

According to the Production safety Law, the administrative department in charge of overall management of the economy and trade of the State Council and the local administrative departments of economy and trade of the governments at and above the county level are responsible for the overall work for the supervision and administration of production safety. To enforce the law, the State Administration of Production Safety (SAPS) and the State Administration of Coal Mine Safety (SACMS) were established.

APPENDIX

*Occupational Diseases**

I. Pneumoconiosis

1. Silicosis
2. Anthracosilicosis
3. Pneumoconiosis caused by exposure to graphite
4. Pneumoconiosis caused by exposure to carbon dust
5. Asbestosis
6. Pneumoconiosis caused by exposure to talcum powder
7. Pneumoconiosis caused by cement dust
8. Pneumoconiosis caused by mica dust
9. Pneumoconiosis caused by ceramics work
10. Diseases of lung caused by aluminum
11. Pneumoconiosis caused by electric welding
12. Pneumoconiosis caused by foundry work
13. Other kinds of pneumoconiosis that can be diagnosed according to Diagnosis Criterion for Pneumoconiosis and Pathological Diagnosis Criterion for Pneumoconiosis

II. Occupational diseases caused by exposure to radiation

1. Acute external irradiation disease
2. Subacute external irradiation disease
3. Chronic external irradiation disease
4. Internal irradiation disease
5. Skin diseases caused by exposure to radiation
6. Cancer caused by exposure to radiation
7. Skeletal disorders caused by exposure to radiation
8. Hyperthyroid disease caused by exposure to radiation
9. Sex-gland disease caused by exposure to radiation
10. Multiple injuries caused by exposure to radiation
11. Other kinds of radiation diseases that can be diagnosed according to Principles of Diagnosis Criterion for Occupational Diseases Caused by Radiation

III. Occupational poisoning

1. Poisoning caused by lead and its compounds (excluding tetraethyl lead)
2. Poisoning caused by mercury and its compounds

3. Poisoning caused by manganese and its compounds
4. Poisoning caused by cadmium and its compounds
5. Diseases caused by beryllium
6. Poisoning caused by thallium and its compounds
7. Poisoning caused by barium and its compounds
8. Poisoning caused by vanadium and its compounds
9. Poisoning caused by phosphorus and its compounds
10. Poisoning caused by arsenic and its compounds
11. Poisoning caused by uranium
12. Poisoning caused by hydrogen arsenide
13. Poisoning by chlorine
14. Poisoning caused by sulfur dioxide
15. Poisoning caused by phosgene
16. Poisoning caused by ammonia
17. Poisoning caused by unsym-dimethylhydrazine
18. Poisoning caused by oxides of nitrogen
19. Poisoning caused by carbon monoxide
20. Poisoning caused by carbon disulfide
21. Poisoning caused by hydrogen sulfide
22. Poisoning caused by phosphine, phosphorus zinc, phosphorus aluminum
23. Diseases caused by exposure to fluorine
24. Poisoning caused by cyanogen and its compounds
25. Poisoning caused by tetraethyl lead
26. Poisoning caused by organic tin
27. Poisoning caused by nickel carbonyl
28. Poisoning caused by benzene
29. Poisoning caused by toluene
30. Poisoning caused by dimethylbenzene
31. Poisoning caused by n-hexane
32. Poisoning caused by gasoline
33. Poisoning caused by monomethylamine
34. Poisoning caused by organic fluorine polymer monomer and its compounds
35. Poisoning caused by dichloroethene
36. Poisoning caused by carbon tetrachloride
37. Poisoning caused by chloroethylene
38. Poisoning caused by trichloroethylene
39. Poisoning caused by chloropropylene
40. Poisoning caused by chlorobutadiene
41. Poisoning caused by nitro- and amino- derivatives of benzene (excluding trinitrotoluene)
42. Poisoning caused by trinitrotoluene
43. Poisoning caused by methanol
44. Poisoning caused by hydroxybenzene
45. Poisoning caused by pentachlorophenol
46. Poisoning caused by formaldehyde
47. Poisoning caused by dimethyl sulfate
48. Poisoning caused by acrylamide
49. Poisoning caused by dimethylformamide (DMF)
50. Poisoning caused by organic phosphorus pesticide
51. Poisoning caused by aminoformate ester pesticide
52. Poisoning caused by chlordimeform
53. Poisoning caused by bromomethane
54. Poisoning caused by pyrethroid pesticide
55. Occupational poisoning diseases of liver that are diagnosed according to the Criterion for Diagnosis of Occupational Poisoning Diseases of Liver
56. Other kinds of acute occupational poisoning that can be diagnosed according to Principles of Criterion for Diagnosis of Acute Occupational Poisoning Caused by Chemicals

Source: Ministry of Health, Ministry of Labor and Social Security, P. R. China.

IV. Occupational diseases caused by physical factors

1. Heat stroke
2. Disease caused by decompression
3. Disease caused by work in plateau
4. Disease caused by aviation work
5. Diseases of arm caused by vibration

V. Occupational diseases caused by biological agents

1. Anthrax
2. Forest spring encephalitis
3. Occupational brucellosis

VI. Occupational skin diseases

1. Dermatitis caused by contact
2. Allergic dermatitis caused by light
3. Dermatitis caused by electric light
4. Melanism
5. Acne
6. Ulcer
7. Chemical burn of skin
8. Other kinds of occupational skin diseases that can be diagnosed according to Principles of Criterion for Diagnosis of Occupational Diseases

VII. Occupational eye diseases

1. Chemical burn of eyes
2. Ophthalmia caused by electrical light
3. Occupational cataract

VIII. Occupational diseases of ears, nose, larynx, and oral cavity

1. Hearing impairment caused by noise
2. Disease of nose caused by chromium
3. Diseases of teeth caused by mineral acids

IX. Occupation cancer

1. Lung cancer caused by exposure to asbestos
2. Bladder cancer caused by p,p-bianiline
3. Leukocythemia caused by exposure to benzene
4. Lung cancer caused by exposure to chloromethyl ether
5. Lung cancer and skin cancer caused by exposure to arsenic
6. Hepatic-vessel sarcoma caused by chloroethylene
7. Lung cancer caused by exposure to chromate
8. Lung cancer caused by chromate manufacturing work

X. Other occupational diseases

1. Fever caused by metal mist
2. Occupational asthma
3. Occupational allergic alveolusitis
4. Disease caused by cotton dust
5. Bursitis of miners