

PART I

AN INTRODUCTION TO CONSTRUCTION SAFETY

LEARNING OBJECTIVES

Part I provides an overview of the construction industry in Hong Kong, including a description of its historical and recent development as well as the principles of health, safety, and environment management and the relevant legislation. Upon completion of Part I, one should be able to:

1. Offer a historical account of the development of Hong Kong's safety-at-work procedures before and after the Second World War in general and for the construction industry in particular;
2. Describe the role of the government in the promotion of industrial safety;
3. Outline the legislation related to the construction industry;
4. Discuss the principles of health, safety, and environment management applicable to construction organisations; and
5. List applicable construction safety laws.

Understanding the history of the construction industry as well as the evolution of the relevant safety and health legislation is essential for all stakeholders in a construction project, including safety officers, contractors, company management, on-site workers, legislators, etc.

“Employment of women, young persons and children in certain industries”

– Factories and Workshops Ordinance (No. 18 of 1937)

“To amend the law relating to factories and industrial undertakings and to the employment of women, young persons and children therein”

– Factories and Industrial Undertakings Ordinance, Chapter 59 (1955)

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The History of Construction Safety in Hong Kong

INTRODUCTION

This chapter outlines the history of safety and health at work with reference to its laws and its regulatory body in Hong Kong. It focuses on four phases: before 1945, after 1945, towards 1997, and after 1997. The roles of various driving forces underlying the implementation and subsequent amendments to these construction safety laws — namely, the regulatory body and safety practitioners — are also described.

THE HISTORY OF CONSTRUCTION SAFETY IN HONG KONG

■ Before 1945

Similar to the first United Kingdom Health and Morals of Apprentices Act in 1802 that was established to protect young children in textile mills, the first historical legislation concerning safety, health, and welfare in colonial Hong Kong focused on the protection of children in certain industries. This statute was the Industrial Employment of Children Ordinance of 1922 (No. 22 of 1922). Under this regulation, a “child” refers to a person under 15 years of age. A Protector and multiple Inspectors of



juvenile workers were subsequently appointed to enforce these regulations. In the Ordinance, 11 regulations were prescribed including:

No person shall employ any child under the age of 10 years in any factory.

No person shall employ any child under the age of 12 years in carrying coal or building material or debris.

No child shall be allowed to carry any weight which is unreasonably heavy having regard to the child's age and physical development, and no child whatever shall be allowed to carry load exceeding forty cetties in weight.

These regulations were perhaps the first traceable introduction of legislation to protect children employed in the industrial environment of Hong Kong. Protection was extended to women and young persons in 1929 via the Industrial Employment of Women, Young Persons, and Children Amendment Ordinance. This Ordinance was later amended (No. 27 of 1932 and No. 30 of 1936) to provide further protection to workers.

In 1937, the Factories and Workshops Ordinance was enacted. The Protector, who was the Chairman of the Urban Council, or any person appointed by the Governor to be the Protector of Labour was responsible for the administration of this Ordinance. Inspectors, who enforced this Ordinance and its associated regulations, were known as Inspectors or Assistant Inspectors of Labour, Factories and Workshops. To further ensure that the employment of women, young persons, and children in industrial undertakings was regulated, factories and workshops had to be registered. Machinery guarding in factories was also required to be reported, and simple fire prevention, as well as means of escape from factories and workshops in tenement buildings, were stipulated.

Notably, the industrial activities in Hong Kong before the Second World War were limited, and the city was predominantly considered a trading port. This resulted in legislation being mainly confined to the conditions for and protection of children, women, and young persons engaged in employment.

■ **After 1945**

Things changed in Hong Kong after the Second World War. B.C.K. Hawkins was appointed the first Commissioner of Labour with

the title of Labour Officer. According to the Labour Office Report, covering the period from 1 May 1946 to 31 March 1947, the office records containing information regarding industrial accidents up to that point had been destroyed during the war. Thus, tracking this information started anew. The registration of factories and workshops re-commenced in January 1946 under the new Labour Department. Of the three Europeans and six locals that made up the pre-war Inspectorate (all on secondment from the Health Inspectorate), only two Europeans and four locals were available and returned to their positions. By the end of March 1947, there were 978 factories and workshops in operation, and the estimated number of persons employed by them was 33,000 males and 18,700 females. A total of 5,065 inspections were carried out in that period.

The notable post-war rise in industrial development also led to an increase in industrial accidents and diseases worldwide. Hong Kong was no exception. The British Factory Inspectorate in the United Kingdom was undoubtedly asked to render assistance through the Home Office in London by various colonies of the British Empire where industries were developing. This continued association with the British Factory Inspectorate after the war is reflected in the Annual Department Report (1951–1952) written by the Commissioner of Labour, which specifies that “department training of the Inspectorate based on International Labour Organisation’s publications, the United Kingdom Factories Act and pamphlets and other publications obtained by courtesy of Her Majesty’s (HM) Chief Inspector of Factories in the United Kingdom, was continued”. Similar writings were recorded in subsequent annual reports throughout the early 1950s.

While Hong Kong was reinstating its industrial regulations after the war, a large number of refugees with capital and technical know-how—principally in the textile manufacturing field—were also fleeing into the city from Mainland China. Moreover, as these industries were established, the Commonwealth Preference Tariff enabled Hong Kong to export textiles at competitive prices. In 1951, the international embargo on the export of strategic goods to Mainland China further enhanced the rapid growth of local industries. As industrial development continued, additional staff were required to enforce legislation and ensure safety. For example, in 1953, the Labour Department began to recruit new inspectors who were sent to the Sanitation Department for training. These qualified

public health inspectors were then required to carry out health, safety, and welfare inspections at various industrial establishments.

The training syllabus used by the United Kingdom Royal Society of Health to educate public health inspectors included courses on a wide variety of topics, including elementary human anatomy and physiology, statutes and orders, water, air, ventilation and lighting, inspection and administration, collection and disposal of excreta and refuse, disposal of the dead, port sanitation, prevention of infectious diseases, health education, insect pests and other vermin, birth/death rate and rate of infant mortality, food and meat inspection, licensing of food establishments, etc. As industry began to flourish, the Factories and Workshops Ordinance was re-titled in 1955 as the Factories and Industrial Undertakings Ordinance (FIUO). One of the main reasons for this renaming was to reflect Hong Kong's willingness to meet its obligations under the International Labour Organisation Conventions. The FIUO was also updated to describe the scope of the legislation more accurately. It was modelled on the 1937 United Kingdom Factories Act with modifications that reflected local specifications. As a result, the title of the Inspectors was changed to "Labour Inspectors".

The updated FIUO was divided into an ordinance and regulations. The ordinance dealt with the appointment and power of the Inspectorate, the factory registration system, and the liabilities and penalties of factory proprietors. The regulations dealt specifically with the employment of children, women, and young persons (13 sections), reporting accidents and dangerous occurrences (2 sections), accident prevention (3 sections), prevention of and escape from fire (8 sections), and hygiene (8 sections). The FIUO generally recognised that to cope with the rapid growth of complex and diverse industries in the city, more technical knowledge was required for the public health inspectors. In 1956, HM Factory Inspector Arthur Quinn, who was also a barrister-at-law, was seconded from the United Kingdom Ministry of Labour and National Service and appointed as the Industrial Training and Safety Officer to train existing Labour Inspectors. Three major changes then followed. First, the practice of sending recruits to be qualified as public health inspectors was abandoned. Second, the need to send local inspectors to the United Kingdom for advanced technological training was realised. Third, the duties of Labour Inspectors relating to safety and health were refined. The Inspectors

sent for the overseas course were given attachments with HM Factory Inspectors in industrial districts. The purpose of this was to provide trainees with practical insight into the standards of safety and health in British industries and the means the Inspectors used to attain them.

In subsequent years, to further enhance their expertise, Hong Kong Factory Inspectors were sent overseas for advanced safety courses with the British Safety Council and universities on industrial health, hygiene, and administration in addition to advanced safety training in Australia, New Zealand, and Canada. Senior members began to attend world congresses on the prevention of industrial accidents and diseases. In 1964, the then Labour Inspectorate was split into two separate classes: the Labour Inspectorate and the Factory Inspectorate. The Labour Inspectorate was responsible for enforcing regulations concerning the work hours of women and young persons as well as child employment in factories. The Factory Inspectorate was responsible for the enforcement of technical regulations concerning safety and health for all industrial workers. Thus, it was the Factory Inspectorate, with its title the same as their British counterpart, which looked after the safety and health of workers, and while it was 130 years after the first four inspectors were appointed in 1833 in Britain, the association of the Hong Kong Inspectorate with the British Inspectorate continued.

In the 1960s, HM Factory Inspector Frank Phillips arrived to take up the post of Industrial Safety Training Officer followed by the appointment of A.H. Carter to head the Industrial Safety Training Centre, which was established in 1967. In 1970, Mr R.K. Christy (a former HM Chief Factory Inspector) and Miss Anne Bettenson (a former HM Deputy Chief Factory Inspector of the United Kingdom Factory Inspectorate) made a brief visit to Hong Kong. During this time, newly recruited Assistant Factory Inspectors were sent to the Hong Kong Technical College for six months to study building technology, electrical engineering, mechanical engineering, and textile technology. In 1973, HM Factory Inspector Anthony Linehan* arrived and spent three years critically evaluating the Hong Kong industrial working environment and submitted a full report in 1976, titled “Report on the Industrial Undertaking Units of

* Anthony Linehan became Chief Factory Inspector, Health and Safety Executive, United Kingdom, in 1988.

the Labour Department and on Related Matters of Industrial Safety and Health”. His report touched on areas of organisation and staffing of the Factory Inspectorate, including recruitment, training and examination, training of Inspectors after probation, the establishment of specialist support services, legislation, the industrial safety training centre, industrial health, non-government involvement in industrial safety and health, and accident notification and statistics. The report established the role the Factory Inspectorate would play in the years that followed.

During the three years Linehan was writing his report, various legislation was enacted. In 1973, for example, the Construction Sites (Safety) Regulations, which addressed the rising annual fatal and serious injury accidents on construction sites, were introduced. This set of regulations was brought into operation in May 1974. The FIUO regulations related to work in compressed air were enacted a year later in 1975 to deal with the introduction of compressed air for the construction of the first mass transit railway (MTR) tunnels in Hong Kong. In the meantime, in January 1975, the United Kingdom Health and Safety Executive (UKHSE) was formed, replacing the HM Factory Inspectorate. During this change, Audrey Pittom, then HM Deputy Chief Inspector of Factories and an active participant in the creation of the HSE, insisted that the title of the Health and Safety at Work etc. Act use the couplet “health and safety” as opposed to “safety and health”. From this point on, the standard terms “occupational health and safety” (OHS) and “occupational safety and health” (OSH) have been used interchangeably and have the same meaning.

Following Linehan’s 1976 report, John Wood, on secondment from the HM Factory Inspectorate/HSE, became the first office holder of the Chief Factory Inspector post in 1977. He served for about two years. In 1985, Stuart Nattrass, head of the Construction Industry Advisory Committee (CONIAC) of the UKHSE, visited the Hong Kong Factory Inspectorate and shared his experience. As the chairman of the CONIAC and a prominent figure in the construction safety industry in the United Kingdom, his views were exceedingly helpful in shaping regulation in the field. Further, in 1988, Brian Burke, a retired Health and Safety Executive Areas Director, also visited the Inspectorate for three months as Labour Adviser. Mr Burke produced another report for the Factory Inspectorate, titled “A Review of the Impact of Changing Circumstances on the Existing

Policies, Procedures, and Performance Standards of the Factory Inspectorate Division”, moving the program forward and upward. Until 1978, the Factory Inspectorate, which administered the FIUO, called itself the Industrial Undertakings Unit. The formation of the Occupational Safety and Health Council (OSHC) in 1988 under a separate Ordinance was also the result of the implementation of the Linehan report.

From 1945 onward, safety and health at work were a primary focus as industrial activities increased in Hong Kong. In fact, in the 1970s and 1980s, following incessant publicity, the term “industrial safety,” abbreviated IS, was widely recognised.

■ Towards 1997

With regard to safety on factory premises and on building and engineering construction sites, 1989 was a significant year for a number of reasons. The FIUO Amendment was enacted by the Hong Kong Legislative Council on 15 December 1989. This enactment was related to the rise in reported accidents that year, with the official safety record showing 26,399 construction accidents in total—59 of which were fatal. Thus, the incidence rate was 374 per 1,000 workers in 1989. In other words, more than one in three construction workers was involved in a reportable accident that year. A reportable accident, defined under the Employees’ Compensation Ordinance, Cap. 282, is an event leading to an employee being off duty from work for more than three days because of an injury sustained during their employment.



The events of 1989 brought safety legislation in Hong Kong into a new dimension. They also prompted the importation of the United Kingdom Health and Safety at Work etc. Act, 1974 (HASAW Act), which focuses on two types of industrial undertakings: factory premises and construction sites. The HASAW Act positively promotes safety and health at work. The key requirement is to develop a sound safety policy and the necessary organisation and arrangement for its implementation. It calls for a total commitment to safety and health at the top levels and the deliberate application of management and organisational skills.

During the introduction of the HASAW Act in Hong Kong, James D.G. Hammer, another former HM Chief Factory Inspector, visited the city in January 1990 and shared his views and experience

with enforcing the Act in the United Kingdom. In the following years, additional insight was gained during visits by David Eves and Adrian Ellis who were senior members of the United Kingdom Health and Safety Commission (UKHSC) and the UKHSE. Notably, in addition to being a Deputy Director General in the UKHSE, Mr Eves was also the HM Chief Factory Inspector from 1985–1988 and 1992–2002.

Unfortunately, the HASAW Act did not bring any discernible improvement in safety on construction sites in Hong Kong. Indeed, in 1993, 12 people were killed by a free-falling passenger hoist on a construction site. This event caused all the stakeholders to re-examine safety administration. In July 1995, the Government published a territory-wide consultation paper reviewing industrial safety in Hong Kong that, among other things, recommended changes in industrial safety strategies ranging from enforcement to promoting safety management. One notable recommendation proposed was the establishment of a safety management system in each organisation that covers six main areas: company policy, safety plan, safety committee, safety audit or review, general safety training, and special safety training. To facilitate implementation by contractors, these six main areas of safety management were developed into 14 process elements in the FIU (Safety Management) Regulation.

■ **After 1997**

On 1 July 1997, Hong Kong returned to the People's Republic of China (PRC) as a Special Administrative Region (SAR), adopting the “One Country, Two Systems” policy. At the same time, LEE Kai-fat, an administrative officer, was posted as Deputy Commissioner to head the Occupational Safety and Health Branch in the Labour Department. Mr LEE was assigned the role of a change manager, an administrative position that was the first of its kind. Organisational changes then followed. For example, on 3 January 1998, the title of Factory Inspector was changed to Occupational Safety Officer after over 30 years of use. Further, enactment of the Occupational Safety and Health Ordinance (OSHO), Cap. 509, also brought workers in non-industrial sectors under the protection of the safety and health at work laws for the first time. This particular legislation covers occupational safety and health at work in practically all fields of economic activity, both industrial and