

Safety evaluation: Important safeguard of work safety for enterprises in China

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Abstract

This paper mainly reviews on safety evaluation in China in recent years, explains the role of safety evaluation playing in work safety and introduces the progress of safety evaluation made in industries. Also it introduces some important provisions on Safety Evaluation Agencies (SEA), and the evaluation specifications and standards, on which the safety evaluation is carried out, issued by China government. Furthermore, it analyzes the incompletes in safety evaluation and discusses their possible influence on SEA, local administration of work safety and the public's reorganization, and indicates the key points to be developed in China future safety evaluation.

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1. Introduction

Safety evaluation is not only an important means of implementing and fulfilling the policy of “safety first and prevention oriented”, but also the base of carrying out scientific and standardized management in enterprise. Safety evaluation can not only directly remove hazards and reduce the accidents occurring, benefiting the complete improvement on safety management of enterprises, but also be helpful to strengthening the treatment and retrofitting unsafe conditions specifically, lowering the risk at the maximum, further raising the productivity with safety guaranteed, and promoting the steady improvement of work safety situation in China (Zhong, Liu, & Wei, 2003).

The safety evaluation in China has generally experienced the following three stages (State Administration of Work Safety, 2004):

The first stage is the exploring period (1970–1987). At the end of 1970s, scholars of China developed some safety assessment and risk evaluation methods with modern safety management thoughts and reference to foreign

safety assessment experiences. These methods have been applied to the management of enterprise's work safety, with good results achieved.

The second stage is the beginning stage (1988–2003). In 1988, the former Ministry of Labor (MOL) put forward the requirements for carrying out occupational safety and health assessment on construction engineering and projects for the first time. In 1996, MOL required that six types of construction projects should accept safety pre-evaluation (SPE). In 1999, the former State Economic and Trade Commission (SETC), issued Qualification Approval and Management Rules of Construction Projects (Engineering) Labor Safety and Health Pre-evaluation Authority, and the qualification approving of SEA was brought into the way under the supervising of law. In 2002, State Administration of Work Safety (SAWS) issued Opinions on Strengthening the Management of Safety Evaluation Agencies (SEA), advancing the development of such assessments with the complete qualification approving of SEA.

The third stage is the period for the development and standardization of safety evaluation (2003–now). Since 2003, the safety evaluation has been developed rapidly, with the issue of related laws and regulations, and technical standards in succession, the constant perfection of

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supervision system of SEA and staffs, the continuous improvement on safety evaluation service and quality.

In development of safety evaluation in China, there are many successes experienced, and also some insufficiencies to be improved (Liu, Zhong, & Xing, 2005). It will be an important guidance and reference for China's work safety to reveal the reasons for those insufficiencies. This paper looks back and summarizes the safety evaluation since 2003 in China.

2. Current status of safety evaluation

According to the regulation of SAWS, the work safety evaluation in China is classified as four types at present, including SPE, safety evaluation on project completion (SEPC), overall safety evaluation of current status (OSECS) and special safety evaluation (SSE) (<http://www.chinasafety.gov.cn/>). These safety evaluations are different from each other and have their own characteristics shown as Table 1.

2.1. Safety evaluation agency

According to the Regulation on Safety Evaluation Agency (RSEA) issued by SAWS in 2004, the qualification of safety evaluation can be classified as two types: class A and class B, and the agency's business scopes should be defined by its specialty and qualification conditions.

The agencies applying for class A can operate its business in the nation wide within the certificated-defined business scope. The agency applying for class B can operate its business within the certificated-defined business scope in its own province. The certificate of class A should be approved and issued by SAWS, and the certificate of class B should be approved and issued by the administration departments of work safety at the level of province.

Meanwhile, SAWS also make the regulation on the application for qualification of foreign SEA, which indicates for the first time in law that the foreign capital

agency can operate safety evaluation in the OSH field in China, and benefits the exchange and cooperation between China and foreign agencies.

The SEA applying for class A should be qualified with the following requirements of:

- (1) An independent legal body's qualification;
- (2) Fixed place and office facilities for its business applied for;
- (3) Registration capital or launching expenses of more than 3 millions Yuan;
- (4) Establishment of complete management system;
- (5) Twelve or more full-time qualified safety evaluation staffs, including at least five persons of senior professional technical title or registered safety engineer, with the safety work experience of 3 years and above;
- (6) The legal representative of SEA should accept the training and pass the examination in work safety, and has been working in the work safety field for 3 years and above;
- (7) The full-time technical director of an agency should be of safety evaluation qualification, senior engineering professional technical title and safety evaluation experience of 5 years and above;
- (8) Conforming to other requirements stated by law and administrative regulations.

The SEA applying for class B should be qualified for the following requirements of:

- (1) An independent legal body's qualification;
- (2) Fixed place and office facilities for its business applied for;
- (3) Registration capital or launching expenses of more than 1 million Yuan;
- (4) Establishment of complete management system;
- (5) Eight or more full-time qualified safety evaluation staffs, including at least two persons of senior professional technical title or registered safe engineer quali-

Table 1
Comparisons among four safety evaluations

Project	SPE	SEPC	OSECS	SSE
Reference files	Feasibility study report	Detailed deign Trial operation record	Detailed and modified design Operation record	Detailed deign Special information
Reference data	Analogies engineering project	Site information	Site Information	Special detection information
Stage	Feasibility study stage	Before formal operation	After formal operation	—
Assessed key points	1. Feasibility 2. Possible dangerous and harmful factors 3. Designed measures	1. Code consistency 2. Existed dangerous factors 3. Measures validity	1. Adaptability 2. Existed dangerous factors 3. Rectifying and correcting measures	1. Feasibility 2. Measures for problems 3. Special detection

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