

Chinese Historic Buildings Fire Safety and Countermeasure

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Abstract

The cultural relic buildings are both valuable cultural heritage left by ancestor and mark of the cultural development during that time. On the basis of the research and analysis of the present situation and existing problems about fire safety management of the historic buildings in China, corresponding prevention and control strategies were provided.

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1. Introduction

It is said that Shaanxi has five thousand years' culture, Shanxi has that of three thousand years, Beijing has that of one thousand years, while Shanghai has one one hundred years. The reason for this is that the local historic buildings reflect the continuity of the culture development and illustrate the source and current of history vividly. The cultural relic buildings are both valuable cultural heritage left by ancestor and mark of the cultural development during that time, not only the pride of a nation and her people but also cultural treasure of whole mankind. Since the cultural relic buildings are unrenovable, more attention should be paid on their protection. Through the research and analysis of the present situation and existing problems about fire safety management of the historic buildings in China, corresponding prevention and control strategies were provided in this paper.

2. The Present situation of fire safety management of historic building in China

2.1 Unclear responsibility of fire safety management due to unclear property right of historic building

In some places, affected by some reasons of history, economic development and confusion and so on, problems such as unclear responsibility of fire safety management and unclear property right of historic building exist.

Without any corresponding protection, some historic buildings are occupied by local institutes and citizens as common house, teaching room or office. Hence, risk of fire safety exists long-term. With the acceleration of urbanization process and the increase of urban population continuously, due to the users of these historic buildings don't have any property right of buildings, fire protection responsibility is unclear and rampant occurrences of congestion, destruction, dirt and disorder, widespread illegal structures occur, which makes the situation of fire safety worse and worse.

2.2 new risk of fire protection from development and utilization of tourism resource about cultural relic building

Under the thought of "Those living on a mountain live off the mountain, those living near the water live off the water", the managers and nearby residents of cultural relic buildings pursue the economic benefits one-sidedly and ignore the fire

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safety management during the development and utilization of cultural relic buildings by running hotels, guest rooms and restaurants inside these buildings illegally and rule-breaking, which brings a large of fire protection risks such as increase of inner fire source, bad management and illegal electric circuit. Furthermore, the guest amounts is big and incense burning has never stop in historic building, so these human factors bring many new problems to the fire safety management of historic buildings. It is showed in Table 1 that the main causes of fire in cultural relic building

Table 1. The main causes of fire in cultural relic building

| Example | the main causes of fire | Rate (%) |
|--|---|----------|
| The temple of “Shizang” in the Hainan state in Qinghai | Careless use of fire | 40 |
| The temple of “Hu guo” in Beijing | The fire of the electrical cord or device | 20 |
| The temple of “Pu you” in Beijing | Thunder strike | 15 |
| The temple of “Qiong zhu” in Yunnan | religious activities | 10 |

2.3 weak facilities and insufficient power of fire protection power

Because of relatively backward economy and insufficient investment of special fire protection fund, fire protection facilities in some cultural relic buildings are weak and the present fire extinguishing equipments are backward and insufficient. There is neither volunteer fire company nor public security fire company in some institutes of cultural relic building a, which makes serious shortage of fire extinguishing power and fail to reach the requirement of fire safety management about cultural relic building. On the other side, the owner and manager don't have clear responsibilities for the fire safety management of cultural relic building and tend to attach less responsibility to investment in fire safety management, which leads to the failed implementation of necessary fire facilities such as fire pump, automatic alarm system and automatic fire extinguishing system.

2.4 Imperfect law and regulation system about fire protection of historic building and incomplete implementation of fire safety

By now, the fire safety management of historic building mainly follows Fire Protection Management Regulations of Historic Building, Law of Cultural Relics and Law of Fire Protection and so on. However, these laws and regulation have certain historical limitations. For example, several factors, such as enactment of responsibility, assignment of application scope, distribution of fire equipment and construction of basic facilities of fire water supply, fire extinguishing installation and automatic alarm system and so on, are hard to satisfy the necessary of practical fire protection work, and the fire safety management measures fail to achieve the requirement of fire safety management of cultural relic buildings. The related laws and regulations of the fire safety management in historic building are showed in Table 2.

Table 2. The related laws and regulations of the fire safety management in historic building

| Example | Release form | Effective time |
|---|---|----------------|
| Law on the protection of cultural relics in the people's Republic of China | Eighty-fourth order of President of the People's Republic of China | 2007-12-29 |
| Regulations for the implementation of the protection of cultural relics in the People's Republic of China | Decree of the State Council order 377th | 2003-05-18 |
| Fire Regulations in the People's Republic of China | sixth order of President of the people's Republic of China | 2009-05-01 |
| The Protection Regulations of the Famous Historical and Cultural Cities | 524th order of Decree of the State Council | 2008-07-01 |
| The Fire protection management rules of the cultural relics | 252th order of the heritage the ministry of public security and culture | 1984-02-28 |

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