The Development Trend of Fire Safety Engineering

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Abstract: With the quickening pace of urban construction in our country, urban buildings, places of production and operation and population are more and more intensive, which leads to new characteristics of urban fire, namely concentrated fire outbreaks, difficult crowd evacuation, narrow fire passage and so on. Especially in recent years with the increasing number of high-rise buildings in the city, many buildings have been beyond the range of fire water gun, to the fire work has added a lot of difficulties. Based on this, the author aims at the current problems of fire protection engineering in our country, analyzes the future development trend of fire protection engineering, and puts forward the important role of developing fire protection engineering scientific design and improving the ability of fire protection safety management. Hope this will provide valuable reference for fire safety engineering construction workers, in order to promote our country fire cause of healthy and sustainable development.

Keywords: Fire Safety; Safety Engineering; Development Trend

Introduction

In recent years, with the rapid development of our science and technology, there has been great progress in fire science and technology, especially in fire prevention and fire rescue, there has been a great breakthrough in the past science and technology. However, due to the rapid development of urban construction, various types of high-rise buildings emerge one after another, commercial outlets and various entertainment places are often too concentrated, completely relying on fire technology can no longer meet the current needs of urban fire safety, we urgently need to develop corresponding fire engineering technology, and strengthen fire supervision and management. Only can we effectively control urban fire safety and improve our country's fire resistance ability.

1. Analysis of existing problems in fire safety engineering

1.1 The concept of fire control design is backward

Fire design is a very important part of fire safety engineering, and its design concept often determines the fire prevention and resistance ability of a building. However, at present, due to the limitations of their own professional knowledge and existing fire resources, many Chinese designers still habituated to follow the past design concept when carrying out fire engineering design, without considering the future development trend of fire engineering. As a result, the fire prevention capability of Chinese buildings is obviously insufficient compared with that of developed countries, which not only affects the effect of fire prevention and disaster resistance. It also has a certain impact on future urban development [1].

1.2 The management of fire control water supply network is not standardized

The construction of fire water supply network management system is the key to ensure the normal operation of fire water supply project. Therefore, during the construction of fire control project, pressure test should be carried out on the water supply network management system according to the relevant national safety regulations, so as to ensure the safety of water supply project. However, at present, many construction units are greedy to save time and effort, and often only carry out leakage test, which leads to insufficient water pressure and leakage phenomenon in the use of water supply network management, thus affecting the effect of fire fighting. In addition, there are some water supply pipeline construction is not standard, often appear the mixed connection of domestic water supply and fire water supply, the use of plastic water supply pipe does not meet the fire safety regulations, so as to bury the fire

extinguishing safety risks.

1.3 The design of fire protection zone is too simple

At present, many buildings are affected by the building area, and the design of fire division is too simple. Some buildings even cancel the fire division, which has a great impact on the fire fighting work. This requires fire engineering designers to scientifically design fire zones according to the actual conditions of buildings, and maintain the function of fire zones while saving space as much as possible, so as to ensure that buildings can have qualified fire prevention capabilities [2].

1.4 Incomplete construction of fire control infrastructure

Fire fighting infrastructure of building engineering includes alarm system, automatic spray system and smoke exhaust system. The construction quality of infrastructure has a very significant impact on the overall function of the building fire engineering. Therefore, we should try our best to do a good job in the construction of the fire engineering, so as to ensure the overall quality of the fire engineering. However, in the current fire engineering construction, some construction teams often choose to purchase and install quality fire fighting equipment at a low price in order to save building materials and reduce the process cost. As a result, fire fighting infrastructure cannot play its due role in the event of fire, causing unnecessary losses to the safety of people's lives and property.

2. Future trend analysis of fire control engineering

2.1 The development trend of fire control engineering design and management

Strengthening fire control design management is the premise of improving the quality of fire safety engineering. The engineering construction units should abandon the traditional architectural concepts, strengthen the attention to fire control design work, and strive to study the international advanced design concepts and combine the latest science and technology of fire control technology development in our country to design fire control schemes scientifically, in order to improve the overall fire control effect. At the same time, the design and management standards of fire control buildings should be strictly observed, and the design standards, construction technology, project quality, acceptance audit and other work should be standardized management. It is strictly prohibited to reduce the safety management standards without authorization. To this end, engineering units should strengthen the professional skills training of designers, through online and offline channels, reasonable arrangement of technical training courses, to ensure the training effect of designers. At the same time, it is also necessary to strengthen the construction of network technology communication platform, pay attention to strengthen the exchange and communication with other construction units, and extensively learn the advanced technology and experience of other units, so as to improve the design and management level of the unit [3].

2.2 Analysis of the development trend of fire control engineering

Strengthening the supervision and management of fire control engineering is the key to improve the quality of fire control engineering. Only by establishing a perfect supervision system and strictly implementing the supervision standards can the quality of fire control engineering be effectively guaranteed. Therefore, the construction unit should strictly formulate the fire protection construction plan according to the fire protection safety management regulations, and set up a special supervision and management department to strictly supervise the fire protection design and construction process, so as to ensure the concrete implementation of the construction plan. In the future, fire safety supervision should make full use of modern digital technology, establish a perfect digital management system, and realize unmanned intelligent management through network real-time monitoring system, so as to avoid production safety accidents caused by human errors. Before construction, the supervision unit should also use the big data system to accurately collect and analyze the relevant construction data, carry out the safety risk assessment for the construction site environment, and formulate a reasonable emergency solution plan according to the assessment results, so as to correctly avoid the safety risk, improve the overall fire fighting ability of the project, and control the possible fire safety risk to the minimum.

2.3 Analysis of the development trend of fire control responsibilities

In the future, the management of fire engineering will inevitably become more and more standardized and legalized. Therefore, construction units should strengthen the study of fire laws and regulations, do a good job in advance of the relevant ideological preparation, construct a perfect fire responsibility management system, effectively implement the responsibility of fire management,

take the responsible person responsible way, in order to improve the effectiveness of fire management. Meanwhile, it is necessary to strengthen the construction of relevant legal learning platform and timely understand relevant policy trends, so as to avoid unreasonable fire protection design and other problems [4].

2.4 Analysis of supervision problems of fire fighting equipment

Strengthening the supervision and management of fire equipment is one of the main trends of the development of fire engineering in the future, which is the experience of countless fire lessons from the past. Warning, when the fire accident happens, if the fire equipment used by the building is insufficient, or the quality can not meet the fire extinguishing needs, it will cause a huge impact on the fire brigade's fire fighting work. As a result, the spread of the fire could not be effectively controlled. Therefore, the fire engineering management workers, must learn from the bitter lessons of the past experience, strictly control the quality of fire equipment, according to the actual construction of the building scientific selection of fire equipment type, strictly control the purchase channel to ensure the safety performance of fire equipment. At the same time, appropriate installation technology should be selected scientifically and installation process should be strictly controlled in the construction process to ensure the installation effect of fire fighting equipment. In addition, the project management department should also pay attention to the maintenance of fire control facilities, conscientiously manage fire control equipment according to the fire protection regulations, carry out regular safety inspection, and make inspection records for each piece of fire control equipment in accordance with the standard format, and timely report to the local fire control safety management department for the record, so as to ensure the integrity of fire control equipment inspection.

2.5 Analysis of the development of computer fire modeling technology

With the rapid development of modern computer technology, the computer fire modeling technology also emerges at the historic moment and gets rapid development. The birth of this technology provides a new direction for the fire protection design of fire engineering buildings. Designers can use computer modeling to simulate the fire protection scene of buildings, so as to detect the fire protection performance of fire protection construction and fire protection materials, find out the shortcomings of the design scheme in time and make corresponding improvements, so as to improve the rationality of fire protection design.

Conclusion

To sum up, fire engineering is a new science and technology, its main content includes the prevention and control of fire. Combined with fire construction and fire technology, it has become a practical guarantee for people's safe life and avoided many tragedies caused by fire. With the continuous progress of construction engineering and information technology, fire engineering also needs to keep up with the development of The Times, and constantly update in new materials, new technology and new management methods, so as to adapt to the increasingly complex fire environment in modern society.

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