

Design and Analysis of Fire Prevention Strategy in Public Entertainment Places

Agare

Bayannur City Fire and Rescue Detachment, Bayannur, 015000, China

Keywords: Public Entertainment Places; Fire Protection; Design Strategy

Abstract: The fire prevention work in public entertainment places involves a lot of content, including a large number of unstructured, semi-structured and non-linear data information. In the current intelligent fire management activities, relevant departments and institutions should combine the grid management mode, divide the grid management units of public entertainment places, and define the corresponding grid management responsible person, in order to improve the fire prevention management level, focus on the systematic fire prevention management and control from the five perspectives of human, machine, material, law, and environment, establish an intelligent fire prevention management system, and improve the fire prevention management level of public entertainment places. This paper briefly analyzes and discusses the fire prevention strategies in public entertainment places.

1. Introduction

The fire prevention management of public entertainment places is of corresponding urgency. Relevant units and institutions should strengthen the protection management, fire prevention design and fire prevention analysis, combine the refined fire prevention management indicators, and carry out complete and comprehensive fire prevention design activities with strict reference to the corresponding fire prevention codes and standards to improve the fire prevention management level of public entertainment places.

2. Fire hazard analysis of public entertainment places

In public entertainment places, there are various potential fire hazards, and once a fire accident breaks out in relevant places, it will bring serious impact. Due to the dense population of public entertainment places, stampede accidents in the process of evacuation are very likely to occur. At the same time, there are closed structures in the public places, and there are also various decorative materials in the relevant places, such as wood materials, fiber materials, and polymer materials. In case of fire, it will lead to the rapid combustion and spread of relevant materials, and some materials are not fully and comprehensively burned. It will also produce a large number of harmful gases and release a large number of black smoke and other toxic substances, resulting in serious casualties. In addition, there are also a large number of electrical equipment in the public entertainment area. Once there is a hidden problem, the relevant electrical equipment will further promote the spread of the fire, and will also produce higher temperature during the combustion process, causing more severe damage

and impact to the public entertainment area. For example, some decorative materials and electrical equipment materials have glass tube structure, and its surface temperature will rise to 600 °C in the fire environment. As a dangerous fire source material, it is very easy to cause serious impact on the surrounding environment.[1] At the same time, there are relatively complex electrical pipeline designs in public entertainment places, and there are also a large number of high-power equipment. If there are corresponding fire hazards in relevant areas, it will lead to excessive heat generation and aggravate the aging of the line. In general, once a fire hazard occurs in public entertainment places, it will cause serious damage and impact, and make people's life safety seriously threatened.

3. Analysis of fire safety hazards in public entertainment places

3.1. Decorative materials do not meet the requirements

At present, with the rapid development of social economy and market economy, public entertainment places also face greater market competition in the process of operation and management. Most public entertainment places blindly reduce costs and expenses in the process of operation and management. For example, in the process of decoration, low-cost materials are used, and related materials have the properties of flammable and explosive, do not have the function of fire control, nor have fire resistance.[2] It cannot meet the management standards and requirements of the fire regulations. For example, a large amount of wood and polymer are used in the relevant areas, which will release carbon monoxide and nitrogen oxides during the combustion process, seriously damaging the life safety of tourists in public entertainment places. In addition, due to the lack of market supervision in the selection and control of decoration materials, relevant businesses have no scruples, and there is also a lack of fire safety inspection in the decoration process. The selection of relevant decoration materials is relatively random, thus laying a large fire hazard problem.

3.2. Electrical equipment management and maintenance are not in place

Public entertainment places have a large number of electrical equipment and electrical equipment for consumers to play and use. Most of the electrical equipment has the characteristics of high power operation, so its line system is relatively complex, and some operators of public entertainment places also have the situation of pulling wires privately, which leads to excessive power load in the area, short circuit or open circuit, which will lead to corresponding fire accidents. In addition, the insulation layer of some cable materials is damaged, and there are also aging and abnormal heating of the line. The insulation layer on its surface is easily ignited by high heat.

3.3. Incomplete and incomplete fire-fighting facilities

At this stage, due to cost considerations, in the operation and management activities of public entertainment places, some managers also neglect to configure fire fighting equipment, such as the lack of a complete set of fire fighting equipment and fire extinguishing system in the relevant areas, and the unreasonable and imperfect spatial layout and spatial distribution of some fire extinguishing devices, which can not effectively support the actual needs of on-site fire fighting and rescue work, such as in the case of fire hazards. Due to the inability of on-site personnel to quickly obtain relevant fire-fighting equipment, there is a situation of slow response, thus losing the best fire-fighting time. In addition, in order to enhance the visual beauty effect, some public entertainment places often choose to add relevant beautification decoration to some storage places of fire-fighting facilities. However, in case of fire hazard, some rescue workers can not find tools quickly. In addition, the design of fire passage in some public entertainment places is not reasonable. In order to expand the

operation and control space and control scope, relevant operators have occupied the fire passage in violation of regulations, and can not achieve rapid evacuation and escape in case of fire hazard. In general, due to the imperfection and incompleteness of fire protection facilities in public entertainment places, and the inadequate management, fire hazard problems often occur.

4. Analysis of fire prevention strategies in public entertainment places

4.1. Selecting reasonable decoration materials and strengthening decoration supervision

At present, in view of the unreasonable selection of decoration materials in public entertainment places, relevant departments, units and institutions should carry out scientific and efficient fire prevention supervision and control during the construction of early entertainment places. In this process, the industrial and commercial departments, fire departments and law enforcement departments should carry out joint cooperation to effectively evaluate and analyze the use specifications and standards of decoration materials in public entertainment places. In addition, the site decoration materials shall be subject to efficient and safe inspection, and the properties and specifications of the materials shall be effectively controlled and selected in strict accordance with the corresponding fire safety management regulations. In addition, the power of electrical equipment in public entertainment places should also be limited to reduce the heat output of relevant equipment, focus on the flame retardance of relevant decorative materials, and select high-quality wires and cables to improve the safe operation level of the whole system. In the detection and management activities, relevant personnel also need to regularly check the lines, especially the insulation detection of line joints and interface parts, and effectively check and manage the places where the zero line is exposed. Therefore, the operators and managers of public entertainment places, as well as the fire management personnel and the industrial and commercial law enforcement personnel, should carry out the normalized inspection of decoration materials, and strictly control the material properties, material specifications and material spatial distribution, so as to truly prevent problems before they occur and improve the decoration management level.

4.2. Providing fire-fighting equipment and improving fire-fighting design

At present, in the fire safety management activities of public entertainment places, relevant units and institutions should improve the scientific allocation and control of fire fighting equipment. During this period, the grid managers of public entertainment places need to complete the effective setting of fire fighting and rescue equipment and fire alarm to ensure that relevant equipment is stored in a conspicuous place as much as possible. In addition, relevant managers also need to conduct regular learning. For example, understand the spatial distribution and division of the fire fighting equipment system in the whole public entertainment place, and quickly find the corresponding fire fighting equipment to carry out fire fighting and rescue work at the first time when the alarm sound is obtained. The exits and passages in public entertainment places should also be scientifically and reasonably designed. The key areas of the passage should be equipped with complete fire extinguisher equipment and placed in a conspicuous place. Operators and managers should also complete the regular inspection, maintenance and use of equipment from the perspective of fire safety, strictly referring to the regulations on the storage and management of relevant equipment. In addition, corresponding lighting facilities, lighting systems, and basic escape tools, such as window hammer, gas mask, etc., should be equipped in specific fire passage areas. In addition, in the process of space design of public entertainment places, relevant designers also need to reasonably optimize and set the smoke exhaust system and smoke exhaust pipes, and improve comprehensive smoke control by referring to the size of the space area of public entertainment places. Therefore, in the process of fire prevention

management in public entertainment places, it is necessary to further equip corresponding fire prevention facilities, improve fire prevention design and control, and improve fire prevention management level and control efficiency.

4.3. Implementing the fire safety responsibility system

At present, in the fire prevention and control activities in public entertainment places, a large number of equipment maintenance and fire prevention supervision and control work items are involved. If the fire safety management department, the industrial and commercial department, and the market supervision bureau are allowed to carry out the supervision and control work unilaterally, there is still a great difficulty. At the same time, the number of personnel in relevant units and departments is relatively small, it is also unable to effectively take into account the fire prevention management of most public entertainment places in the whole urban space. Therefore, it is necessary to improve the management level of fire safety in public entertainment places, implement a high-quality safety responsibility management mechanism, and clarify the work responsibilities of the operators and managers of public entertainment places. At this stage, China needs to further improve the management responsibility mechanism of fire safety protection in public entertainment places, clarify the responsible person representatives, and refer to the actual needs of current intelligent fire safety management, in order to set up grid management personnel in public entertainment places, and clarify the fire safety management responsibilities of relevant grid management personnel, so that they can effectively control the fire hazards in public entertainment places. For example, the grid management personnel must carry out daily patrol inspection or organize businesses and businesses in public entertainment places to carry out fire fighting drills to ensure the normal and orderly fire safety work in relevant areas.

In addition, the fire safety management department also needs to regularly publicize new knowledge, new ideas and new methods to grid managers, so that they can understand the fire prevention management knowledge, and can take a series of remedial measures, prevention and control measures in the fire prevention management process of public entertainment places, so as to improve the prevention and control efficiency. In addition, relevant grid unit managers should also learn to use fire fighting equipment, be able to effectively control the spread of fire in the initial stage of fire fighting activities, and organize businesses and consumers in the grid unit to evacuate quickly and efficiently, in order to cooperate with the fire management department to carry out fire investigation, fire prevention and control, and achieve the right remedy. Therefore, in the current fire safety management process of public entertainment places, it is necessary to implement efficient fire management responsibilities, establish a grid management unit, and clarify the grid responsible person, which can improve the efficiency of fire safety management in all aspects.

4.4. Building intelligent fire prevention management system

In the process of fire prevention management and fire prevention design in public entertainment places, it is essential to achieve real-time and efficient extraction and control of fire prevention supervision information. During this period, the relevant fire safety management departments need to complete the construction of supporting information database according to the actual needs of fire prevention management in public entertainment places, and improve the control level and control efficiency of fire prevention information management. To complete the collection, management, processing and control of various data, it is necessary to cooperate with the use of the Internet of Things system and improve data collection before high-quality data analysis can be implemented. Therefore, in public places of entertainment, it is necessary to complete the effective supervision of the entire resource base with the help of systematic and standardized sensor system, and realize

scientific and effective supervision and control in combination with integrated management modules and management strategies, so as to realize the all-round and dynamic supervision of fire safety work.

5. Development prospect of fire protection and fire prevention in public entertainment places

In the new era, with the rapid development of artificial intelligence technology, big data technology and Internet technology, fire prevention management in public entertainment places will also usher in a corresponding turn. With the support of the digital system and the Internet of Things system, the level of fire prevention management in relevant areas will also be effectively improved. During this period, all units and institutions can complete intelligent analysis and intelligent decision-making through intelligent systems. With the all-round popularization of sensor equipment, intelligent perception can be realized in all areas and spaces of public entertainment places, making fire prevention work more sensitive. At the same time, we can also use big data technology, artificial intelligence technology, artificial neural network system and expert database system to analyze all kinds of unstructured and nonlinear data in public entertainment places. For example, we can divide the fire safety management level of public entertainment places by timely detecting the operating power of current equipment and current power load, so as to make more scientific and effective management decisions. Therefore, with the further development and optimization of smart cities and smart systems in the future, the fire prevention management level and control efficiency of public entertainment places will also be effectively improved.

6. Conclusion

In general, in the process of fire protection and fire prevention design of public entertainment places at this stage, all units and institutions should formulate more scientific and reasonable fire prevention management standards, carry out systematic and comprehensive design control work with strict reference to corresponding fire prevention specifications and fire prevention indicators, and improve the fire prevention management level of relevant areas.

References

- [1] Hao J. *Design analysis of fire prevention strategy in public entertainment places [J]. Regional governance 2020; 000(022):1-1.*
- [2] Gong H. *Common fire safety hazards and countermeasures in public entertainment places [J]. Today's fire protection 2020; 5(2):2.*