Analysis on Security Threat to Civil Aviation and Its Countermeasure

Fei Shi

Railway Police College, China, Henan, Zhengzhou, 450000

Keywords: Civil aviation; Security threat analysis; Countermeasures; Safety management

Abstract: With the rapid development of the national economy and the dramatic improvement of living standards, the current means of travel are no longer just cars, trains or motor vehicles. Civil aviation has developed rapidly in recent years, and many long-distance passengers choose to travel by air. However, However, no matter what way travels choose, people are most concerned about the safety of travel, especially the safety of civil aviation, which directly affects the personal safety of passengers. There are many factors affecting civil aviation safety, including human factors and environmental factors. In this paper, the threat of civil aviation safety is analyzed, and the corresponding solutions are put forward to provide useful suggestions for the protection of civil aviation safety.

At present, aviation industry in China has been strongly supported by the state and society. Civil aviation has developed very rapidly. It is easy for people to travel and is deeply loved by people. However, in recent years, several aircraft accidents have had a serious impact on the safety of people's lives and property. Although air transportation belongs to a kind of traffic mode with relatively small probability of safety accidents, the damage caused by it is enormous, which makes people worry about choosing aircraft to travel, and affects the development of civil aviation. The analysis of safety threats to civil aviation and the study of countermeasures should be based on the road of zero accident rate of air transport, to ensure the safety of people's lives and property and promote the healthy development of civil aviation.

1. Factors Affecting Civil Aviation Safety Management

1.1 Internal Factors Affecting Civil Aviation Safety Management

There are many internal factors affecting the safety management of civil aviation. The main influencing factors are safety culture factors, safety legal factors, safety technology factors and safety responsibility factors. First of all, the safety culture factor affecting the safety management of civil aviation is the safety culture factor. If the safety culture of civil aviation is backward, it will not pay attention to the construction of safety protection infrastructure and increase the risk of dangerous air transportation. The construction of the airport's security system is not perfect, which makes the airport fail to meet the standards for security inspection, infrastructure maintenance and personnel training, affecting the normal operation of the airport. Safety culture factors have a great impact on the behavior and spirit of airport staff. A good safety culture encourages every airport staff to work in accordance with the prescribed system, including safety inspectors and crew members, which meets the requirements of safety management and promotes the smooth development of airport work. Second, the safety culture factor affecting the safety management of civil aviation is the security legal factors. If the laws and regulations on civil aviation safety management are completed, it will play a deterrent role, restrain the behavior of airport staff, improve their attitude towards safety management, and actively participate in safety management; if they are bound by law, they will take the initiative responsibility [1]. Safety technology factors mainly represent various technical measures to ensure airport security. In modern times, security technologies mainly prevent network security problems through network information means, such as preventing traffic attacks by improving the monitoring system for airports. The formulation of the safety responsibility system can promote every employee to take the work seriously, and can be

held accountable according to the safety responsibility system after the accident. The division of work of airport staff is different, and the responsibilities assumed are different. Only when the safety responsibility mechanism is perfected and there is no responsibility loophole, is the probability of accidents effectively reduced to a certain extent and can the safety of civil aviation be improved.

1.2 External Factors Affecting the Safety Management of Civil Aviation

The external factors affecting the safety management of civil aviation are mainly environmental factors. The first one is the impact of social environment. Religious beliefs, educational level and values of life in a region will have an impact on civil aviation safety management. People with good safety awareness and high comprehensive quality will actively cooperate with airport safety management, understand the work of airport workers and bear in mind airport safety principles. They will take the initiative to assume responsibility and negotiate amicably to solve problems instead of conflicts with airport staff to reduce the occurrence of civil aviation safety accidents. Secondly, it is influenced by political environment. The decrees or policies promulgated by the government have a great impact on the safety management of civil aviation. If the local government does not support the development of civil aviation, the decrees promulgated restrict civil aviation, and there will be contradictions between them, which is not conducive to the safety management of airports. The turbulent situation and rampant terrorists pose a great threat to the safety of civil aviation. Thirdly, the economic environment affecting the safety management of civil aviation. The benefits of civil aviation affect the development of civil aviation and the improvement of civil aviation efficiency, the investment in civil aviation safety management will increase, and safety equipment will be improved to strengthen personnel training, improve safety management level, and reduce the probability of civil aviation safety accidents. Finally, it is affected by natural environment. A major factor affecting the safety of civil aviation is the natural environment. When typhoons, earthquakes or hailstorms occur in a certain area, they pose a security threat to aircraft travel, affect the normal operation of navigation systems, and increase security risks.

2. Analysis on Threat to Civil Aviation

2.1 Threats from Cabin Safety

The threat of civil aviation cabin safety mainly comes from both civil aviation itself and passengers. With the improvement of people's living standards, the service requirements for air transportation are getting higher and higher, and the service fees required are getting higher and higher. Once the service work of the staff is not in place, it is easy to cause disputes and threaten the safety of civil aviation. For example, due to weathering and other irresistible natural factors, the aircraft can not take off on time, or passengers need to wait for a long time. At this time, if the flight attendants are not in place for the passengers' services, the passengers’ requests are not put in place, and the passengers’ requests are not processed in time. It will lead to an imbalance of passengers' mood, which will lead to the expansion of the situation and cause security risks [2]. On the other hand, the threat comes from the passengers. Due to the level of education and comprehensive quality of passengers, some passengers will not agree with the safety management regulations of the airport. It is also easy to cause contradictions for the work of airport staff. For example, when passing the security check, there are very few passengers who are arrogant and do not cooperate. After the security personnel have repeatedly communicated the consequences, the two sides have conflicts. For example, most passengers think that shipping is the safest way to travel, thus lacking safety awareness, even if the flight attendants show the passengers self-seeking measures in the event of an accident every time, some passengers rarely learn, resulting in a certain safety risk in the event of an accident.

2.2 Threat from Aircraft Maintenance Safety

In recent years, due to the serious impact of safety accidents caused by shipping, civil aviation

has paid more and more attention to the selection and maintenance of aircraft. Civil aviation is committed to seeking new aircraft with high safety and good service quality. Compared with using old aircraft, the aircraft can better provide passengers with better service and reduce the occurrence of security incidents [3]. A large part of the hidden dangers of aircraft maintenance safety comes from the illegal operation of maintenance personnel. Because the professional knowledge of maintenance personnel is not up to standard, the comprehensive quality is not high, the operation is not standardized during maintenance, and the aircraft is not carefully repaired, resulting in leakage repair; When the mechanism of the airport safety supervision and management department is not perfect, it is impossible to effectively supervise the maintenance personnel. The illegal operation during the maintenance process has not been discovered in time, which increases the probability of civil aviation safety hazards.

3. Measures to Avoid Threats to Civil Aviation Security

3.1 Strengthening Internal Staff Training and Improving the Overall Quality of Staff

In view of the security threats in civil aviation safety management, first of all, we should do a good job in the training of internal personnel. Safety managers should strengthen communication with staff members, emphasize the importance of civil aviation safety, carry out targeted training for the existing security threats at the present stage, and effectively solve the doubts of internal staff, and improve the ability of employees to solve practical problems and comprehensively improve the comprehensive quality of employees. In the training, we should focus on cultivating employees' safety awareness, understand their position in safety management, and have a sense of safety all the time. We must not relax our minds on the safety of civil aviation. We must dedicate ourselves to work to provide passengers with the best quality service, and strive for the satisfaction of passengers. At the same time, we should formulate some scientific and reasonable reward and punishment measures to encourage employees who have performed well in civil aviation safety to make further efforts to make due contributions to the protection of civil aviation safety. Those who do not comply with the civil aviation safety system are critically educated and are required to make corrections.

3.2 Improving the Passenger Safety Management System and Strengthening Passenger Safety Management

To improve the passenger safety management system and strengthen the passenger safety management, the first thing is to improve the enforcement of safety management law. Safety management system can only play a role in the implementation process. One of the effective ways is that multi-law enforcement departments act jointly to criticize passengers who do not comply with the passenger safety management system and to enforce the treatment of passengers who do not comply with the management system. It is a shocking effect for passengers who do not respect the safety management system. On the other hand, it improves the safety awareness of passengers to better cope with the work of crew members and reduce the occurrence of safety hazards.

4. Conclusion

All in all, this paper believes that the factors affecting the safety management of civil aviation mainly include internal factors and external factors, both of which have great influence on the safety management of civil aviation. The civil aviation safety threats are mainly threats to the safety of aircraft cabins and the safety of aircraft maintenance. It also proposes strategies to strengthen internal personnel training, improve the overall quality of staff and improve the passenger safety management system, and make useful suggestions for the safety of civil aviation to promote the development of civil aviation.

References

[1] Liu Qi. *Civil Aircraft Error Analysis and Aviation Safety Research* [J]. Engineering Technology: Full Text Edition, 2016.

[2] Shao Guannan. *Human Security Risks and Countermeasures in Civil Aviation Air Control* [J]. Science and Technology Communication, 2014(1): 267-267.

[3] Sun Jia, Xiong Kangwu, Wu Qian, et al. *Problems in Civil Aviation Integrated Emergency Management in China* [J]. Security, 2017(10): 57-60.

[4] Yang Zhou, Fan Danhong. Research on Risk Assessment and Security Countermeasures of Civil Aviation Information Source Data Reporting Based on D-S Evidence Theory[J]. Journal of Safety and Environment, 2018, 18(2): 628-635.

[5] Fang Lei. Environmental Risk and Control Analysis of Aviation Kerosene Transportation Pipeline Leakage[J]. Chemical Industry Management, 2018, No.488(17):170.