A Study on Strengthening Technical Management and Maintenance for Safe Radio and Television Broadcasting (Postprint)

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Abstract

The continuous development of science and technology has driven the reform of China' s broadcast television industry, and the scale of broadcast television has been continuously expanding with the support of new technologies; however, the current development of broadcast television has given rise to numerous problems. Management problems, maintenance problems, and safety problems occur frequently; therefore, strengthening the maintenance and management of broadcast television safe broadcasting technology is particularly crucial. Broadcast television professionals must fully recognize the importance of maintenance and management of broadcast television safe broadcasting technology and provide enhanced financial support for broadcast television safety maintenance. This paper primarily offers a brief overview of broadcast television safe broadcasting and proposes corresponding countermeasures for the problems existing in current broadcast television safe broadcasting, hoping to serve as a reference for colleagues in the industry.

Full Text

Exploration on Strengthening the Management and Maintenance of Radio and Television Safe Broadcasting Technology

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Abstract

The continuous development of science and technology has driven reforms in China' s radio and television industry, with the scale of broadcasting continu-

ously expanding under new technological support. However, numerous problems have emerged in current development, with frequent management, maintenance, and safety issues. Therefore, strengthening the maintenance and management of radio and television safe broadcasting technology is particularly crucial. Broadcasting professionals must fully recognize the importance of safe broadcasting technology maintenance and management, and provide greater financial support for safe broadcasting maintenance. This paper briefly describes safe broadcasting in radio and television and proposes corresponding countermeasures for existing problems, hoping to provide references for industry peers.

Keywords: Radio and television; Safe broadcasting; Monitoring management; Broadcasting equipment; Network security

Introduction

The primary objective of maintenance management is to smoothly deliver information to the public. Radio and television play a vital role in cultural and entertainment dissemination, serving as the main channel for information transmission. After busy workdays, people can access effective information through television programs, helping to relieve fatigue and stay informed about societal and national affairs. With China' s continuous socioeconomic development, the public has placed higher demands on the radio and television industry. The industry must fully utilize new media technologies to strengthen safe broadcasting technology maintenance, prevent illegal signals from damaging broadcasting information networks, and effectively ensure safe broadcasting to provide abundant program resources for the general public.

1. Related Content of Radio and Television Safe Broadcasting

Safe broadcasting of radio and television programs requires the joint efforts of various departments within the station. To ensure normal program broadcasting, timely maintenance and replacement of equipment are necessary. Therefore, safe broadcasting necessitates routine equipment inspection, which also facilitates daily maintenance [5]. Radio and television safe broadcasting encompasses several aspects: first, the safety and reliability of programs themselves, meaning the content must be positive, healthy, and uplifting, conducive to social harmony and orderly cultural and economic development [2]; second, the security of received signals, which must be specially authorized and within legal boundaries; third, the safety of transmission processes, which may face malicious data attacks and requires encryption to ensure successful delivery; and finally, the safety of all equipment used in program production and broadcasting to fully protect personnel safety [3].

2. Significance of Strengthening Radio and Television Safe Broadcasting

2.1 Effectively Meeting Public Demand

Radio and television serve as primary channels for information dissemination. After busy workdays, people can obtain effective information through television programs, helping to relieve fatigue and stay informed about societal and national affairs. With China' s continuous socioeconomic development, the public has placed higher demands on the radio and television industry. The industry must fully utilize new media technologies to strengthen safe broadcasting technology maintenance, prevent illegal signals from damaging broadcasting information networks, and effectively ensure safe broadcasting to provide abundant program resources for the general public [4].

2.2 Effectively Ensuring Program Ratings

With the arrival of the new media era, the proliferation of programs has impacted traditional media. If traditional media cannot keep pace with the times and produce more engaging content, ratings will decline. To improve ratings, stations must enhance program quality, and safe broadcasting forms the important foundation for program production. Safety incidents will inevitably lead to rating declines, making safe broadcasting essential for maintaining viewership.

2.3 Ensuring Normal Operation of Related Equipment

Safe broadcasting requires the concerted efforts of all departments. Normal program broadcasting depends on timely equipment maintenance and replacement. Routine equipment inspection for safe broadcasting also facilitates daily maintenance [5].

2.4 Effectively Maintaining Information Accuracy

Current information overload affects us in various ways, and the authenticity of news represents a crucial media characteristic. Ensuring safe broadcasting enables positive and accurate information dissemination, preventing program content from being tampered with or misled, which could affect socialist spiritual civilization construction. Therefore, strengthening safe broadcasting maintenance is necessary.

3. Characteristics of Radio and Television Safe Broadcasting Technology

3.1 Complex Production Process and Background

Radio and television program production and broadcasting involve numerous stages, equipment, and personnel. Problems in any link may lead to adverse consequences. Additionally, broadcasting signals face multiple interferences from

natural environments and human factors during transmission, causing instability that affects safe broadcasting.

3.2 Strong Timeliness

Radio and television programs may be broadcast live, which carries significant influence and attracts high social attention. Staff must make full preparations to avoid errors during live broadcasting.

3.3 Positive Content Requirements

Radio and television programs target the general public and should convey social morality and virtues. They can communicate Party policies, celebrate social harmony, and must align with mainstream social values, disseminating positive and healthy content [6].

3.4 Increasing Content and Diverse Transmission Methods

With technological advancement, transmission technologies have become more sophisticated. Satellite transmission and digital compression technologies have greatly solved previous problems of limited coverage and content capacity.

3.5 Improving System Functions

With continuous development and utilization of new technologies, radio and television system functions are increasingly perfected. Broadcasting and control systems have achieved digitization and intelligence, effectively combining teletext technology with digital information transmission to significantly improve program quality and picture clarity.

4. Current Problems in Radio and Television Technology

4.1 Incomplete Technical System for Safe Broadcasting

Although radio and television stations have established real-time technical maintenance and operation management systems according to regulations, some stations lack scientifically guided standards. Loose management, inadequate inspection and supervision of safe broadcasting systems, and insufficient communication between departments directly affect overall safe broadcasting work.

4.2 Weak Safety Awareness Among Staff

Related personnel lack awareness of safe broadcasting, with insufficient ability to handle emergencies. Some staff even develop complacent attitudes and fluke mentalities, disregarding safety issues and responding slowly to emergencies, causing irreparable broadcasting accidents that negatively impact stations.

4.3 Outdated Broadcasting Equipment

In the new era, broadcasting equipment requires continuous updates to effectively improve broadcast quality. Due to various factors, current investment is insufficient, and some equipment is outdated, affecting normal program broadcasting. Stations must replace aging equipment and upgrade broadcasting systems to ensure safe broadcasting.

4.4 Data Storage and Network Security

In the information age, security measures are crucial for safe operations. First, data must be prevented from loss; second, data must be protected from tampering and illegal access. With industry development, data storage has integrated various new technologies. While cloud storage has greatly increased capacity, encryption technology lacks adequate security, leaving data vulnerable to virus attacks and creating hidden dangers for safe broadcasting [7].

5. Effective Measures for Radio and Television Safe Broadcasting Technology Management and Maintenance

5.1 Updating Concepts and Optimizing Safe Broadcasting Conditions

In today' s rapidly developing scientific and technological environment, we must promptly update concepts and optimize maintenance conditions for safe broadcasting. Stations should fundamentally establish safe broadcasting technology concepts, take safety management seriously, increase funding for advanced digital media technologies, provide basic condition support, timely replace outdated equipment, and upgrade broadcasting systems. By introducing advanced technologies such as IoT and big data, stations can effectively leverage program effects and provide technical guarantees for safe broadcasting.

5.2 Implementing Safe Broadcasting Management Methods and Regulations

Stations must conscientiously implement management methods and regulations for safe broadcasting technology, strictly adhering to technical standards and relevant provisions. During program production, they should follow corresponding guidelines, produce according to the highest technical standards, select positive and uplifting content, timely convey government policies, and promote socialist core values. They should implement safe broadcasting standards, improve duty schedules, assign responsibilities to specific individuals, establish 24-hour duty systems in machine rooms, and strengthen machine room safety management. During broadcasting, staff should be arranged to maintain and inspect equipment, quickly identify causes and troubleshoot when accidents occur to ensure normal program broadcasting [8].

5.3 Conducting Safe Broadcasting System Maintenance

First, stations must strengthen system security maintenance. Due to high ratings and broad audiences, broadcast programs significantly impact public opinion and values, so content must promote correct social values and equipment must guarantee smooth broadcasting. Safe broadcasting system maintenance mechanisms must be implemented, with staff regularly inspecting server equipment and repeatedly checking program information for accuracy. Second, program monitoring and maintenance must be strengthened. Given the special audience and social impact, stations must emphasize real-time and objective broadcasting. Quality issues may cause significant losses, so stations should enhance technical maintenance through advanced monitoring platforms. Before broadcasting, video sequences and content must be reviewed, every broadcasting link carefully inspected to avoid accidents. Staff training should be strengthened, information integration increased, and platform resource sharing achieved for multi-angle security guarantees. Third, emergency command systems must be established. Emergency situations may occur during broadcasting, requiring emergency command systems to respond promptly. Monitoring should focus on broadcasting systems, using AI and emergency mechanisms to prepare contingency plans and coordinate responses. Emergencies must be reported to leadership immediately, with corresponding response measures implemented to effectively ensure safe broadcasting [9].

5.4 Strengthening Technical Staff Training

To ensure safe broadcasting, stations must strengthen personnel training. In the converged media era, safe broadcasting technicians require professional knowledge training to improve technical application abilities. Staff must be familiar with systems and processes, with emergency plans repeatedly drilled. Quarterly emergency drills can effectively improve staff ability to handle broadcasting accidents and prevent similar incidents [9].

5.5 Establishing Unified Monitoring and Management Platforms

Stations should establish unified construction management platforms according to regulations to supervise technology, content, and safe broadcasting, ensuring information security. Through cross-platform data sharing and business integration, comprehensive supervision of safe broadcasting can be achieved, promoting new development stages for safe broadcasting technology [10].

6. Outlook for Radio and Television Safe Broadcasting Technology

In the big data era, traditional radio and television platform management models must be innovated. During broadcasting, stations should strengthen cooperation with various platforms, jointly utilizing satellite and intelligent technologies.

They must ensure secure and smooth information transmission and data sharing. In the big data era, public demand for program quality and content is gradually increasing. Stations must update programs promptly to ensure safe broadcasting, using new mobile communication technologies to serve stations and guarantee stable broadcasting [11]. Radio and television programs are not only important carriers for people' s spiritual needs but also crucial methods for promoting positive social energy. Therefore, strengthening safe broadcasting is essential. This requires increased investment, timely equipment updates, and enhanced staff training to effectively improve information security and enable programs to fulfill their role [12]. With the application of various intelligent devices in the industry, the security of radio and television programs will significantly improve.

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Note: Figure translations are in progress. See original paper for figures.