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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Code for engineering project of radio and television program
production and broadcasting**

广播电视制播工程项目规范

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1 General provisions

1.0.1 The document was drawn up to secure the functional performance of radio and television programme production and broadcasting engineering, the quality and safety of the construction works, the safety of ecological and environmental protection, the normal running of the systems and equipment, the quality of programme production and the safety of transmission.

1.0.2 Radio and television programme production and broadcasting engineering must be carried out in accordance with this code.

1.0.3 Whether the technical methods and measures adopted in the construction works meet the requirements of this code is judged by the responsible parties concerned. Innovative technical methods and measures among them shall be subjected to demonstration and shall meet the requirements of this code on function and performance.

3.1 Acquisition and recording system - general requirements

3.1.1 Radio and television programme production and broadcasting engineering shall have the technical systems and the functional zoning corresponding to acquisition and recording.

3.1.2 The lighting equipment of live studios in radio and television programme production and broadcasting engineering shall be fed from a dual power supply; among it, the main face lighting equipment for the presenter of the news live studio of Class A and Class B radio and television programme production and broadcasting engineering shall be fed from a UPS.

3.1.3 Studios with a floor area larger than 200 m², sound recording rooms with a floor area

larger than 120 m² and make-up rooms and standby areas with a floor area larger than 50 m² shall be provided with evacuation lighting, and the minimum horizontal illuminance at floor level shall not be lower than 3.0 lx.

3.1.4 The alarm valve set of the deluge system of a studio shall be placed inside a valve room; when two or more deluge system zones are provided in one and the same space, the zoning plan of the deluge system shall be marked in different colours at the manual actuation box, and the zone numbers of the corresponding actuation buttons shall be marked on it.

3.1.5 The combustion performance of the ceiling finishing materials of the process and technical rooms of radio and television programme production and broadcasting engineering shall be non-combustible material, and the combustion performance of the wall, floor and other finishing materials shall not be lower than flame-retardant material.

3.1.6 Acquisition and recording rooms used for sound acquisition and for audio editing and production shall be given architectural acoustic treatment. Once construction is complete, the acoustic indices shall be measured on site as required.

3.1.7 A music recording room shall have an enclosed and independent recording control area.

3.1.8 Radio live broadcasting in Class A and Class B radio and television programme production and broadcasting engineering shall be provided with at least one standby radio live broadcasting room.

3.2 Acquisition and recording system - technical system

3.2.1 A studio shall be provided with an audio and video monitoring system and an intercom system.

3.2.2 The main and standby signals output by the video system of a live studio shall come from different switching equipment, and no jump in the picture shall occur when the signal source is switched.

3.2.3 The main and standby signals output by the audio system of a live studio shall come from different sound mixing equipment, and digital audio equipment shall have a phase locking function and shall be in the phase locked state.

3.2.4 The main and standby signals of the live studio and of the radio live broadcasting room of Class A and Class B radio and television programme production and broadcasting engineering shall be conveyed to the broadcast system over two or more different routes.

3.2.5 Where an outside broadcast system is provided, it shall satisfy the following provisions: (1) Class A and Class B, the main and standby broadcast signals of the outside broadcast system shall be conveyed to the broadcast system over two or more different

routes; (2) Class C, the outside broadcast system shall convey the main and standby broadcast signals to the broadcast system.

3.2.6 The vertical illuminance, colour temperature, colour rendering index and other properties of the base lighting of the performance area of a studio shall suit the requirements of camera image shooting.

3.2.7 The lighting, sound and stage design equipment and installations of a studio shall satisfy the following provisions: (1) the raising and lowering of powered suspension devices shall all have upper and lower limit stops and overload protection devices; powered horizontal bars, powered hangers and self-hoisting bars shall be provided with slack and broken rope protection and anti-overtravel protection devices; (2) the lighting, sound and stage design equipment and their accessories shall be installed with firm connections and shall have safety protection measures against falling.

4 Content editing system

4.0.1 Radio and television programme production and broadcasting engineering shall have the corresponding technical systems and shall be divided into functional zones according to the editing and processing requirements of the different types of content material.

4.0.2 The news editing system of Class A and Class B radio and television programme production and broadcasting engineering shall be provided with a UPS supply.

4.0.3 The core servers of the content editing system shall be arranged in an online hot standby configuration.

5 Broadcast control system

5.0.1 Radio and television programme production and broadcasting engineering shall have the corresponding technical systems and shall be divided into functional zones according to the broadcast control requirements.

5.0.2 The broadcast system of Class A radio and television programme production and broadcasting engineering shall have a standby broadcast system configured in an N+1 or 1+1 arrangement.

5.0.3 Two or more broadcast routes shall be provided for the main and standby programme broadcast signals of Class A and Class B radio and television programme production and broadcasting engineering, and they shall be fed to the master control system.

5.0.4 The database servers used by the broadcast system of Class A and Class B radio and television programme production and broadcasting engineering shall be configured as a dual-machine hot standby and shall be able to switch over automatically.

5.0.5 A live studio and a radio live broadcasting room shall be provided with delay and

switching devices in the signal broadcast path.

5.0.6 The television broadcast control system shall be able to control the broadcast server, the player, the keyed graphics and text, the signal switching and other equipment, and shall be provided with a main and a standby broadcast control machine; the main and standby broadcast control machines shall have the corresponding monitoring and switching functions.

5.0.7 In a television broadcast system, broadcast switching shall satisfy the following provisions: (1) Class A and Class B, switching equipment with a power-failure through-connection function and with a dual power supply shall be provided; the broadcast switch shall be able to keep its previous connection state after power is restored; the broadcast switcher, the broadcast switch and the keyer shall have both manual and automatic control modes; the station logo, the clock and the subtitles shall be superimposed by keying or by a graphics and text layer; the main and standby broadcast signals shall come from different broadcast switching equipment; (2) Class C, the broadcast switch shall be able to keep its previous connection state after power is restored; the broadcast switcher, the broadcast switch and the keyer shall have both manual and automatic control modes.

5.0.8 In a television broadcast system, the auxiliary broadcast system shall satisfy the following provisions: (1) Class A and Class B, the equipment shall use external synchronisation and phase locking, and the synchronisation signals on the key broadcast equipment shall not be connected in series; equipment with a station logo and subtitle superimposition function shall be provided; filler material played in a loop shall be provided; an emergency filler signal source and a standard video and audio test signal source shall be provided; it shall be possible to monitor all source signals and broadcast signals in real time by eye and by ear; (2) Class C, equipment with a station logo and subtitle superimposition function shall be provided; an emergency filler signal source and a standard video and audio test signal source shall be provided; it shall be possible to monitor all source signals and broadcast signals in real time by eye and by ear.

5.0.9 Before each live broadcast the system shall be given a pre-broadcast test, the running condition of the equipment shall be checked and the start time, the broadcast length and other matters shall be verified; before broadcasting starts, the video and audio signal test shall be completed and the signal kept clear.

5.0.10 The radio broadcast path shall satisfy the following provisions: (1) Class A, the main broadcast path shall have an emergency programme source and shall be able to feed the programme signal of the live room system or the signal of the emergency programme source into the transmission system; it shall be possible to switch between the main and standby broadcast signal sources and the emergency filler music source and signal source; a switching control panel shall be provided and shall be fitted with a dual power supply; the switching matrix shall be able to keep its previous connection state after power is restored,