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**NATIONAL STANDARD OF THE
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GB/T 46477-2025

Technical specification for lightning protection of radar stations

雷达站防雷技术规范

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Lightning Protection Standardization (SAC/TC258). This document was drafted by: Hubei Provincial Lightning Protection Center, Hubei Provincial Meteorological Information and Technology Support Center, and China Electric Power Research Institute Co., Ltd. Company, Shanghai Huayun Yangfan Intelligent Engineering Co., Ltd., Wuhan Leiguang Digital Technology Co., Ltd., State Grid Electric Power Research Institute Wuhan Nanrui Co., Ltd. Limited Liability Company, Shanghai Yutai Oushen Intelligent Technology Co., Ltd., Hubei Tianhong Testing Technology Group Co., Ltd., Xinjiang Uygur Autonomous Region Meteorological Bureau Technical Equipment Support Center, Henan Yangbo Lightning Protection Technology Co., Ltd., Hefei Aerospace Electrophysics Technology Co., Ltd., Shanghai University, Chongqing Laiting Lightning Protection Lei Technology Co., Ltd., Beijing Jinheyi Technology Development Co., Ltd., Hebei Provincial Climate Center, Shanghai University of Electric Power, China Association for Standardization Meeting, Zhejiang Huadian Lightning Protection Technology Co., Ltd., Hengshui Ruifute Lightning Protection Technology Co., Ltd., Shenzhen Zhonghang Bit Communication Technology Co., Ltd. Limited Liability Company, Hubei Tiandi Lightning Technology Co., Ltd. The main drafters of this document are. Li Zheng, Li Li, Zhang Xiuchun, Li Zhe, Li Jingxiao, Xiao Feng, Jin Tong, Wu Dawei, Shi Yajing, Yao Ximei, and Ling Jie. Ye Bo, Chen Jingen, Song Liyuan, Wang Yu, Duan Zemin, Wang Xiaofei, Zhou Qibin, Chen Guangyin, Wang Wei, Du Kangyun, Bian Xiaoyan, Huang Bizhen, Wang Leida Wang Zandong and Mei Chunhui. Radar Station Lightning Protection Technical Specifications

1 Scope

GB/T 46477-2025 is the Chinese national standard covering protecting a radar site from a strike - the air termination over a rotating antenna that cannot simply be caged, the bonding and earthing of the tower and the shelter, the surge protection on the waveguide, power and signal lines, and the testing afterwards. A radar station is the tallest thing on its hill and it is full of electronics. First edition, in force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026.

This document specifies the basic requirements for lightning protection of radar stations, including radar station buildings, radar antenna platforms, radar equipment rooms and communication transmission systems, and power distribution equipment. Requirements for the maintenance and management of electrical systems, other auxiliary devices, and lightning protection devices for radar stations. This document applies to the design, construction, and maintenance of lightning protection devices for meteorological radar stations, air traffic control radar stations, and surface surveillance radar stations. Other types of radar stations should follow the same guidelines. Note

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 20626.1 Electrical and electronic products for high-altitude environments under special conditions - Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 radar stations The term refers to the buildings, sites, and radar equipment constructed to meet the requirements of radar use and ensure its operation and guard post. [Source: GB 51418-2020, 2.0.1, with modifications]

3.2 Lightning protection device A complete system used to reduce personal injury and physical damage caused by lightning strikes on buildings.

Note. LPS consists of two parts. external and internal lightning protection devices. [Source: GB/T 21431-2023, 3.1]

3.3 Separate metal objects can be directly connected to a lightning protection device using a connecting conductor or via a surge protector to reduce the impact of lightning current.

Potential difference. [Source: GB 50057-2010, 2.0.19]

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