

ICS 07.060

CCS A47



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

GB 31224-2014

**Specifications for observing environs protection of atmosphere
background watch station**

气象探测环境保护规范 大气本底站

Issued on: September 30, 2014

Implemented on: January 1, 2015

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

Table of Contents

- 1 Scope
- 2 Terms and Definitions
- 3 Classification and protection range
- 3.2.1 PRGZ
- Appendix A

Foreword

3.2.1.2 of this standard, recommended in Appendix A, the remainder being mandatory. This standard was drafted in accordance with rules GB/T 1.1-2009 given. The standard proposed by the China Meteorological Administration. This standard by the national meteorological Standardization Technical Committee (SAC/TC507) instruments and methods of observation. This standard was drafted. CMA Meteorological Observation Center, Chinese Academy of Meteorological Sciences, Beijing Meteorological Bureau, Zhejiang Meteorological Bureau, Heilongjiang Provincial Meteorological Bureau, Qinghai Meteorological Bureau of Shandong Provincial Meteorological Bureau. The main drafters. Zhang Xiaochun, Zhou Huaigang, Yu Xiangming, Jin Junli, Zhang Yu, NIE Hong, MA Feng Bo, Wang De congregation, Liu Hengde, Song Qingli, Sun Joun-yung, Zhou Ling Xi, Xu Xiaobin, Tang Jie.

This atmospheric bottom station mainly in the global or regional scale atmospheric composition and its atmosphere physical and chemical processes initiated, in particular the climate Observation and environmental changes have important implications for the long-term key atmospheric composition, the system for our climate prediction, forecast, and regional air pollution Forecast and control to provide basic data to provide first-hand information for the scientific decision-making China's economic construction and social development, national security, the environment and foreign affairs material. To ensure a good representation of the observed data, accuracy and comparability, and reflected observation stations to some extent, represent the area Background feature long-term changes in atmospheric composition, formulated standard atmospheric background probe station environment protection. Meteorological environmental protection norms
Atmospheric Background Station

1 Scope

GB 31224-2014 is the Chinese national standard on specifications for observing environs protection of atmosphere background watch station, in the field of natural and applied

sciences. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 30 September 2014 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 January 2015. Classification: ICS 07.060, CCS A47. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the classification of the atmospheric environmental protection zone bottom detection station, and the protection requirements. This standard applies to the atmospheric background stations, as well as protection of the environment to detect other stations having a function of atmospheric background observed.

2 Terms and Definitions

The following terms and definitions apply to this document.

2.1 Atmospheric Background atmospherebackground Atmospheric composition global or regional scale range and the average state correlation characteristics.

2.2 Atmospheric Background Station atmospherebackgroundwatchstation Long-term observations of the atmospheric bottom (2.1) and its variation characteristic stations.

2.3 Global atmospheric background station globalatmospherebackgroundwatchstation Long-term observations of atmospheric constituents and related characteristics, to reflect changes in characteristics of the global scale atmospheric background (2.1) stations.

2.4 Observed field Zhou Bian edgeofanobservationsite It includes all sensing part detecting apparatus, the sampling points (ports) like a minimum circumferential atmospheric background station.

2.5 This atmospheric bottom sector sectorofatmospherebackground (2.4) extending outwardly from the Zhou Bian the observation field, the sector areas represent the background site atmospheric conditions.

3 Classification and protection range

3.1 Classification of protected areas Background Atmospheric Environmental divided into a detection station PRGZ substantially protected areas and core protection zone three.

3.2 protected areas

3.2.1 PRGZ

3.2.1.1 observed field from Zhou Bian annular region 30000m to 10000m ~.

3.2.1.2 range PRGZ global atmospheric background stations except

3.2.1.1 predetermined region, which also comprises the air present in the bottom side of the sector To, from the observed field Zhou Bian 30000m ~ 50000m sector of annular region. Atmospheric Background sector division method in Appendix A.

3.2.2 Basic Sanctuary 1000m ~ from Zhou Bian annular region of the observation field 10000m.

3.2.3 The core protected areas 1000m from Zhou Bian annular region of the observation field.

4 protection requirements

4.1 Basic requirements Atmospheric Environmental background area detection station basic requirements are as follows:

- a) prohibit new construction, renovation and expansion of the metallurgical, chemical, petrochemical, coal, thermal power, building materials, paper making, brewing, pharmaceutical, fermentation, textile, leather and Mining and other industrial and mining areas;
- b) prohibit new construction and expansion of urban or residential areas;
- c) Prohibition of setting a fixed route over the protected areas.

4.2 PRGZ Land Use should remain relatively stable, land use types altered area of less than 1% per year.

4.3 Basic protection zone The basic requirements of the following protected areas.

- a) should remain stable manner of land use, land use patterns to be altered area of less than 0.5% per year;
- b) Setting prohibited interference source farms, landfills, sewage outfall and so on.

Appendix A

(Normative) This atmospheric bottom sector division method A.1 Data Requirements A.1.1 site has been built Background stations has been built atmospheric air required sectorized background information comprising. Ground meteorological elements

- a) the past three years or more sequences of observations;
- b) the past three years or longer sequences atmospheric composition observations;
- c) the past three years or other relevant elements longer sequence of observations;
- d) air mass after nearly three years or more sequence information to track;

e) the global atmosphere Zhou Bian background station 50.0km geographical range, wherein the underlying surface ecological nature, air pollution, socioeconomic Status and other information. A.1.2 proposed site Atmospheric Atmospheric Background proposed station sectorisation the background information required includes. Ground meteorological elements

a) nearly a year or longer sequence of observations;

b) a composition of the atmosphere in recent years or longer sequences of observations;

c) the past one year or other related elements of a longer sequence of observations;

d) After air mass nearly 1 year or more sequence information to track;

e) the global atmosphere Zhou Bian background station 50.0km geographical range, wherein the underlying surface ecological nature, air pollution, socioeconomic Status and other information. A.2 division method A.2.1 dividing step A.2.1.1 based on surface meteorological observation data elements, making the wind direction frequency of roses, production methods, see A.2.2. A.2.1.2 The observation data relevant atmospheric composition, production of various species direction - concentration roses, production methods, see A.2.3. Wind rose at a frequency graph A.2.1.3, combined with various species direction - the concentration of roses, having a selected high frequency direction, the average concentration of species Lower degree direction, preliminarily determined direction atmospheric background. According to the geographical A.2.1.4, natural ecological characteristics underlying surface, air pollution, socioeconomic status, and other similar air mass trajectory Off secondary observations, the atmospheric verify the orientation. A.2.1.5 bottom of the atmospheric wind direction according to the frequency statistics accumulated in descending order, the cumulative frequency direction and 60% or more The sector is the direction on the bottom of the atmospheric sector. A.2.2 Wind frequency roses A.2.2.1 by North (N), North northeast (NNE), Northeast (NE), East Northeast (ENE), East (E), East Southeast (ESE), Southeast (SE), South Southeast (SSE), south (S), SSW (SSW), Southwest (SW), WSW (WSW), West (W), North West (WNW), northwest (NW) and the North West North (NNW) 16 orientations production Leinian wind direction frequency roses. Each wind A.2.2.2 Leinian frequency, according to equation (A.1) is calculated. $F = M \times 100\%$ (A.1) Where.

--- F. Leinian a frequency direction; N

--- Leinian a number of wind appears; M

--- For ages total number of each wind direction (including calm winds) occur. Wind A.2.3 - concentration roses A.2.3.1 Press the north (N), North northeast (NNE), Northeast (NE), East Northeast (ENE), East (E), East Southeast (ESE), Southeast (SE), South Southeast (SSE), south (S), SSW (SSW), Southwest (SW), WSW (WSW), West (W), North West (WNW), northwest (NW) and the North West North (NNW) 16 wind azimuth production - the