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

GB/T 15314-2024

Replacing GB/T 15314-1994

Specifications for precise engineering survey

精密工程测量规范

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document replaces GB/T 15314-1994 "Specification for Precision Engineering Measurement". Compared with GB/T 15314-1994, in addition to structural adjustments and In addition to editorial changes, the main technical content changes are as follows:

- a) Added a chapter on "Terms and Definitions" (see Chapter 3);
- b) Change "Chapter 4 Precision Horizontal Control Network" to "Plane Control Network and Height Control Network" and change the content of Chapter 5 of the.1994 edition to accommodated (see Chapter 5, Chapters 4 and 5 of the.1994 edition);
- c) The content of "Coordinate datum" has been changed (see 4.1, 4.2, 3.2 of the.1994 edition);
- d) "Grade of accuracy" has been deleted (see 3.3 of the.1994 edition);
- e) The description of "Instrument Verification" has been changed (see 4.7, 3.7 of the.1994 edition);
- f) Changed the description of "Submitted Results" (see 4.9, 3.8 of the.1994 edition);
- g) The content of "Design Principles" has been changed (see 5.1, 4.1, 4.2, 4.5, 5.1,

1 Scope

GB/T 15314-2024 is the Chinese national standard on specifications for precise engineering survey, in the field of natural and applied sciences. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 28 May 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 December 2024. Classification: ICS 07.040, CCS A78. 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 document specifies the precise engineering survey control network, survey mark construction, precise angle measurement, precise distance measurement, precise height measurement, Technical contents and requirements including precision alignment measurement, precision vertical measurement, precision three-dimensional measurement, as well as data processing, quality control and results management. This document is applicable to precision measurement work in various stages of survey and design, construction layout, installation and commissioning, deformation monitoring, etc. of various projects.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 12897 National first and second class leveling specifications

GB/T 17942 National Triangulation Specification

GB/T 17943 Specification for geodetic and astronomical measurements

GB/T 18314 Global Positioning System (GPS) Measurement Specification CH/T.2004 Basic provisions for electronic field records of measurement JJG

8 Leveling rod calibration procedures JJG100 Total Station Electronic Tachometer Calibration Procedure JJG414 Optical Theodolite JJG425 Level Verification Procedure JJG703 Photoelectric distance meter calibration procedures JJG(Surveying and Mapping)2101 Digital Level Calibration Procedure JJG (Surveying and Mapping) 2102 Verification Procedure for Invar Barcode Leveling Staff

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Use high-precision measuring instruments and special equipment, use corresponding measurement methods and data processing means to achieve absolute measurement accuracy Engineering surveying work with millimeter level or above or relative accuracy of 10-5 or above.

3.2 Accurately measure the distance and angle of the point offset in a fixed direction, and repeatedly and accurately adjust the point to make the distance and angle of the point Measurement method where the offset is less than the error requirement.