JJF

NATIONAL METROLOGY TECHNICAL SPECIFICATION

OF THE PEOPLE'S REPUBLIC OF CHINA

JJF 1071-2010

The Rules for Drafting National Calibration Specification

国家计量校准规范编写规则

Issued on: November 05, 2010 **Implemented on: May 05, 2011**

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

Table of Contents

The Rules for Drafting National Calibration Specification

1 Scope

This Rules applies to the preparation of national metrology and calibration specifications. Calibration specifications for various laboratories can be compiled by using it as reference.

2 Normative references

This Rules refers to the following documents:

JJF 1059, *Evaluation and Expression of Uncertainty in Measurement*

JJF 1069-2007, *Rules for the Examination of the Service of Legal Metrological Verification*

GB/T 1.1-2009, *Directives for standardization - Part 1: The structure and drafting of standards*

GB 3102.1, *Quantities and units of space and time*

GB/T 14691, *Technical drawings - Lettering*

GB/T 15834, *General rules for punctuation*

GB/T 15835, *General rules for writing numerals in public texts*

GB/T 20001.1, *Rules for drafting standards - Part 1: Terminology*

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies to this Rules.

3 General

3.1 General principles for drafting specification

The National Calibration Specification is formulated and approved by the Metrology Administration Department of the State Council. It is implemented nationwide and serves as a technical document for calibration. The Calibration Specification should:

- Comply with relevant national laws and regulations;

- The scope of application should be clear. Within the scope defined by it, it shall strive for completeness as needed;

- Fully consider the rationality of technology and economy. Leave room for the latest technology.

3.2 Basic requirements for normative expression

- The written expression should be rigorous in structure, clear in hierarchy, precise in wording, and clear in description. It shall not cause different understandings.

- The terms, symbols, codes and abbreviations used should be unified. They always express the same concept.

- Express the name and symbol of the measurement unit, the name and symbol of the quantity, the name and symbol of the error and measurement uncertainty according to the national regulations.

- The formulas, drawings, tables, and data should be expressed accurately and as required.

- The expressions of the relevant content of the specification should be coordinated and consistent. They should not be contradictory.

4 Structure of specification

The specification consists of the following parts:

Cover

Title page

Table of contents

Introduction

Scope

References

Terminology and units of measurement

Overview

Metrological characteristics

Calibration conditions

numerals are used for page numbers beginning with the text of the specification. See Annex C for its writing format.

5.4 Introduction

The introduction is not numbered. It should include the following: the rules on which the specification is based; the extent or circumstances of the adoption of international recommendations, international documents or international standards. If the specification is revised, the following should also be included: a description of all or part of other documents replaced by the specification; the number and name of the replaced specification or other documents are given, and the main technical changes compared with the previous version are listed; the release status of previous versions of the replaced specification.

5.5 Scope

It mainly describes the scope of application of the specification, so as to clearly define the subject of the specification. For example, this specification applies to the calibration of ×× measuring instruments (×× range, scope).

5.6 References

The references should be indispensable documents when compiling the specification. If not referred, the specification cannot be implemented. The references should be official publications. When citing a document, the number of the document should be given (when citing a standard, the standard code and sequence number) and the complete file name should be given. For dated references, only the dated version applies to this Specification. For undated references, it should be noted that "the latest version (including all amendments) applies to this Specification".

When citing an international document, the Chinese translation name should be given after the serial number (year). Give the original text name in parentheses after it.

The order in which the documents are listed is as follows: national metrology technical regulations, national standards, industry standards, international proposals, international documents, international standards. The above documents are arranged in sequence.

5.7 Terminology and units of measurement

When the specification involves the terms that have not been specified by the country, the necessary definitions should be given in this chapter.

Terminology entries should include the following: entry codes, terminology, English

equivalents (except for proper nouns, all English equivalents use lowercase letters, nouns are singular, and verbs are original forms), definitions. The drafting method should meet the requirements of GB/T 20001.1.

To make the specification easier to understand, reference may also be made to defined terms.

The content should be introductory words and terminology entries (list). Introductory words are instructions before specific terms and definitions are given.

For example: In this Specification, if not only the terms and definitions are defined, but also the terms and definitions defined in other documents are cited, then the introductory words shall be: "...the terms and definitions defined in … as well as the followings apply to this Specification".

If the term refers to another document, the number of this document should be given in brackets.

The measurement unit uses the national legal measurement unit.

The measurement unit refers to the unit's name and symbol of the main measurement characteristics of the measuring instrument described in the specification. The conversion relationship of similar measurement units can be listed when necessary.

5.8 Overview

It mainly briefly describes the purpose, principle and structure of the object to be calibrated (including the necessary structural diagram). If the principle and structure of the object to be calibrated are relatively simple, this element can be omitted.

5.9 Metrological characteristics

This part specifies the metrological characteristics of the object to be calibrated. All possible indications or quantities of the object to be calibrated should be included. By calibration of the metrological characteristics specified in this article, the metrological performance of the instrument being calibrated can be determined.

5.10 Calibration conditions

5.10.1 Environmental conditions

They refer to the environmental conditions during calibration activities that have an impact on the measurement results. When possible, the environmental conditions necessary to ensure the normal operation of (measurement) standards and objects to be calibrated during calibration activities, such as temperature, relative humidity, air

g) Date of calibration. If it is related to the validity and application of the calibration results, the date of receipt of the calibrated object should be stated;

h) If it is related to the validity application of the calibration results, the sampling procedure of the sample to be calibrated shall be explained;

i) Identification of the technical specification on which the calibration is based, including name and code;

j) Description of the traceability and validity of the measurement standards used in this calibration;

k) Description of calibration environment;

l) Statement of calibration results and measurement uncertainties;

m) Explanation of deviations from calibration specification;

n) Signature, title or equivalent identification of the person who issues the calibration certificate or calibration report;

o) Statement that the calibration results are only valid for the subject being calibrated;

p) Statement of the certificate may not be reproduced in part without the written approval of the laboratory.

5.13 Recalibration interval

The specification can make suggestions on recalibration intervals with certain scientific basis for reference. It shall indicate that since the recalibration time interval is determined by various factors such as the use of the instrument, the user, and the quality of the instrument itself, the sender can independently determine the recalibration time interval according to the actual use situation.

5.14 Annex

Annex is an important part of the specification. Annexes may include: the content of calibration records, the content of the inside pages of calibration certificates and other forms, recommended calibration methods, relevant procedures or diagrams, and relevant reference data, etc.

An example of the evaluation of measurement uncertainty should be given in the annex.

Examples of measurement uncertainty assessment should meet the requirements of JJF 1059 "Evaluation and Expression of Uncertainty in Measurement", including sources of uncertainty and their classifications, formulas and expressions for uncertainty synthesis.

next level to compile the article. Each first-level article should be given a title. After the serial number, leave a space for Chinese characters before writing the title, which occupies a separate line and is separated from the subsequent articles. Whether the other levels are with or without the titles can be determined according to the needs. When there is no title, a space for a Chinese character after the number of the article is used to arrange the article.

6.3 Paragraph

A paragraph is an unnumbered hierarchy within a chapter or article. The first line of a paragraph should be indented two spaces on the left side of the page. Top row when moving.

6.4 Annex

Each annex should start on a separate page.

Annexes should be numbered sequentially with English capital letters starting with A, but with I and O removed. The word "Annex" is followed by the letter indicating its order. "Annex ×" is located in the top grid from the left. On the next line, center the title of the annex. The number of the annex should be added in front of the number of clauses, articles, tables and figures of the annex.

7 Editing rules

7.1 Footnote

Footnotes give additional information, but their use should be kept to a minimum.

Footnotes should be at the bottom left of the page. Separate the footnote from the main text by a short thin horizontal line. The line length is one quarter of the layout width.

Footnotes are usually distinguished by consecutive Arabic numerals with circles ①, ②, ③ etc. Each page is renumbered starting from 1. The method of marking footnotes in the text is to mark the same numbers ①, ②, ③ etc. in the upper right corner of the relevant words or sentences.

7.2 Notes in article

The notes in the article are only for the necessary explanation for understanding the article. Its writing should start on a new line, after the article to be explained.

When there is only one note, the title "Note:" shall be followed by a line of notes. If

there are more than one note at the same time, the title of the first line is "Note:". Edit the comment clause from the second line. Each note is numbered with Arabic numerals 1, 2, 3, etc. Write on a separate line.

The title "Note:" should be indented by two spaces. When the comment clause moves, it is flush with the text position where it starts writing.

7.3 Notes in table or figure

Table notes should be placed within the borders of the tables concerned. Figure notes should be placed in the center below the relevant figure title. Use a separate numbering sequence for the "Note" of each table and each figure.

7.4 Item description

Item descriptions may begin with a complete sentence followed by a colon (see Example 1). Or start with the first half of a sentence. Do not add a colon (see Example 2). Complete the sentence by explaining the items in the following columns.

Example 1:

This specification gives requirements applicable to the following measurement systems or devices:

- Motor vehicle overspeed automatic monitoring system;

- Motor vehicle radar speedometer.

Example 2:

The specification shall:

- Comply with relevant national laws and regulations;

- The scope of application should be specified according to the actual needs of calibration to ensure the traceability of the value;

- Fully consider the rationality of technology and economy and leave room for the adoption of the latest technology.

Each column description should be preceded by a dash. When the description of the column item is shifted, it should be arranged in the top grid.

7.5 Table

7.5.1 Serial number

All continuation tables shall be arranged with headers.

7.6 Figure

7.6.1 Drawing

Drawings and related graphic symbols should be accurate and clear and comply with the relevant national regulations on technical drawing and graphic symbols. Only the dimensions, symbols or necessary text descriptions required by the calibration specifications are marked on the drawings.

7.6.2 Numbering

Figures should be numbered with Arabic numerals starting from 1. The numbering should be independent of the numbering of clauses and tables. When there is only one figure, it should be marked as "Figure 1". Each figure should be mentioned in the text to clarify its role.

7.6.3 Figure caption layout

Figure captions should be centered below the figure. Its layout is shown in the following example:

Figure 1 -- Instrument details

7.6.4 Selection of symbols

The symbols used to represent the general angular and linear quantities in the figure should follow the relevant provisions of the national standard GB 3102.1. Subscripts are used where necessary to distinguish different applications of a given symbol.

Example: When drawing, use L_1, L_2, L_3, etc. as symbol series of different lengths, instead of using such as A, B, C or a, b, c, etc.

7.6.5 Fonts

The fonts on the illustrations shall comply with the relevant provisions of the national standard GB/T 14691 on technical drawing.

Symbols for quantity are italicized. Symbols representing units or abbreviations in foreign languages are in regular style. Subscripts should also follow this principle.

7.7 Citing method

Whenever possible, the method of citing specific parts of the published literature should be adopted instead of repeating the cited original material. If repetition is necessary, the source of this material should be indicated in square brackets.

For example: the noun term "comparison" is quoted in the specification, which should be expressed in the text as follows:

Comparison

Under specified conditions, the process of comparing the magnitude values reproduced by the same measuring instrument with the same accuracy class or specified uncertainty range. [JJF 1069-2007, Terms and Definitions 3.9]

Citations should take the form below without citing page numbers.

[JJF 1069-2007, Terms and Definitions 3.9]

7.7.1 References to the specification itself

In general, it is mentioned in the form of "this Specification...".

7.7.2 Citing certain terms in the text

For example, use the following form:

- "According to Clause 3...";
- "According to 3.1...";
- "According to the detailed rules given in 3.1.1...";
- "See Annex B";

It is not necessary to use the word "article".

7.7.3 Citing tables and figures

Every table and every figure in the specification shall be mentioned in the text. For example, use the following form:

- "Given in Table 2...";
- "(See Table 2)";
- "(See Figure 3)".

7.7.4 Citing relevant content from other bibliography

Citations must be authoritative.

When citing, its number should be indicated.

References to specific clauses in other documents should use the form given in 8.7.2 or 8.7.3. At the same time, indicate the number of the referenced document before the

This is an excerpt of the PDF (Some pages are marked off intentionally)

------ The End ------