

ICS 17.180
CCS A 60

JJG

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

JJG 768-2005

Replacing JJG 768-1994

**Verification Regulation of Emission Spectrometer
(English Translation)**

Issued on: September 5, 2005

Implemented on: March 5, 2006

Issued by: The General Administration of Quality Supervision, Inspection and Quarantine issued, This regulation was approved by the General Administration of Quality Supervision, Inspection and Quarantine on September 5, 2005, and

Table of Contents

1 Scope (1)	
2 Citations (1)	
3 Overview (1)	
3.1 Instrument principle and use (1)	
3.2 Instrument structure (1)	
3.3 Instrument Classification (1)	
4 Metrology performance requirements (1)	
4.1 ICP spectrometer measurement performance requirements (1)	
4.2 (Spark/Arc) Direct Reading Spectrometer Measurement Performance Requirements (1)	
4.3 Spectrometer measurement performance requirements (2)	
5 General technical requirements (3)	
5.1 Appearance (3)	
5.2 Security Performance (3)	
6 Measuring instrument control (3)	
6.1 Verification conditions (3)	
6.2 Verification project (4)	
6.3 Verification method (4)	
6.4 Processing of verification results (7)	
6.5 Verification period (8)	
Appendix A Standard Solution for ICP Spectrometer Verification (9)	
Appendix B ICP Spectrometer Verification Record Format (10)	
Appendix C Direct Reading Spectrometer Verification Record Format (13)	
Appendix D Spectrograph Verification Record Format (15)	
Appendix E Certification Certificate Page Format (17)	
Appendix F Format of the verification result page (18)	
4.1 ICP spectrometer measurement performance requirements (1)	
4.2 (Spark/Arc) Direct Reading Spectrometer Measurement Performance Requirements (1)	

6.5 Verification period (8)

Appendix A Standard Solution for ICP Spectrometer Verification (9)

Appendix B ICP Spectrometer Verification Record Format (10)

Appendix C Direct Reading Spectrometer Verification Record Format (13)

Appendix D Spectrograph Verification Record Format (15)

Appendix E Certification Certificate Page Format (17)

Appendix F Format of the verification result page (18)

Emission spectrometer verification procedure

1 Scope

This procedure is applicable to the first verification, subsequent verification and in-use inspection of the emission spectrometer (hereinafter referred to as the instrument).

The metering performance test in the identification and prototype test of the instrument can be carried out with reference to this regulation.

2 Citations

This procedure refers to the following documents.

JJF1001-1998 General Terms and Definitions JJF1059-1999 "Measurement and Expression of Measurement Uncertainty" OIMLR116

"Inductively coupled plasma atomic emission spectrometers for measurement of metal pollutants in water" "Plasma emission spectrometer for the determination of contaminated metal ions in water" Use of this procedure should take care to use the current valid version of the above cited documents.

3 Overview

3.1 Instrument principle and use the emission spectrometer is based on the atoms or ions of the element to be measured, and is excited in the light source to generate characteristic radiation.

Judging the existence of this characteristic radiation and the magnitude of its intensity, qualitative and quantitative analysis of each element. It is mainly used for Sample analysis in metallurgy, geology, petroleum, environmental protection, chemicals, food, medicine, etc.

3.2 Instrument structure the main structural block diagram of the instrument is shown below.

Injection System--- Excitation Source--- Dispersion System--- Control and Detection System--- Output System

3.3 Instrument classification the instrument is divided into three categories according to the excitation light source and the detection system. The first category. inductively coupled plasma emission spectroscopy Instrument (referred to as ICP spectrometer), including sequential scanning type, multi-channel simultaneous type (detector is photomultiplier tube), full spectrum Direct reading type (detector is CCD or CID) and other types; second type. spark/arc direct reading spectrometer (referred to as straight Read spectrometers, including both large and portable types; third category. spectrographs.

4 Metrological performance requirements

4.1 ICP spectrometer measurement performance requirements the measurement performance requirements of ICP spectrometer are shown in Table 1.

4.2 (Spark/Arc) Direct Reading Spectrometer Measurement Performance Requirements the metering performance requirements of the direct reading spectrometer are shown in Table 2.