

ICS 27.120.99

CCS F 49



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

GB/T 44771-2024

**Process and product qualification requirements for
manufacturing of PWR nuclear fuel assemblies**

压水堆核燃料组件制造工艺和产品合格性鉴定要求

Issued on: October 26, 2024

Implemented on: February 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Preface... III 1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Requirements	1
5 Identification	2
Appendix A (Informative) List of Typical PWR Nuclear Fuel Assembly Process and Product Qualification Items	5
Appendix B (Informative) Process Qualification Assessment Contents	6
Appendix C (Informative) Product Qualification Assessment Contents	11

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 is required.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed and coordinated by the National Technical Committee for Nuclear Energy Standardization (SAC/TC 58).

This document was drafted by: China National Nuclear Corporation Jianzhong Nuclear Fuel Element Co., Ltd. and China Nuclear Power Research and Design Institute.

The main drafters of this document are: Zhong Duojun, Wu Ping, Li Sha, He Jun, Luo Linling, Ye Wanyi, Dai Jianxiong, Chen Yao, Li Jinkui, Li Fanggang, Pu Zengping.

Pressurized water reactor nuclear fuel assembly manufacturing process and products Qualification assessment requirements

1 Scope

This document specifies the requirements for the manufacturing process and product qualification of pressurized water reactor nuclear fuel assemblies.

This document is applicable to the manufacturing process and product qualification of pressurized water reactor nuclear fuel assemblies.

Product qualification appraisal shall be carried out in accordance with this law.

2 Normative references

GB/T 4960.3

GB/T 19001

3 Terms and Definitions

The terms and definitions defined in GB/T 4960.3 and the following apply to this document.

3.1 process qualification

The ability of a particular process to meet specified requirements is verified through testing or inspection using representative samples.

3.2 Product qualification

To verify that a production line meets the specified requirements by manufacturing and testing a certain batch of products (the first or first batch of parts and components) ability.

4.1 Quality Assurance Requirements

Manufacturers should establish a corresponding quality management system in accordance with the provisions of GB/T 19001, and the management system should operate effectively.

4.2 Personnel

The corresponding operators and inspection personnel in the qualification assessment process should be trained, have the corresponding skills and obtain the corresponding qualifications.

4.3 Equipment

Equipment, tooling, instruments and measuring instruments should be in good condition and meet the requirements of the manufacturing process in addition to their own technical indicators.

Measuring instruments must be verified and calibrated and within their validity period.