

ICS 01.040.27
CCS F 02

NB

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

NB/T 20259.5-2021

Replacing NB/T 20259.5-2014

**Code of valuation on bill of quantities of nuclear power plant
construction works - Part 5: Electrical equipment installation**

核电厂建设项目工程量清单计价规范 第5部分：电气设备安装工程

Issued on: January 7, 2021

Implemented on: July 1, 2021

Issued by: National Energy Administration of the PRC

Table of Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

4 General provisions

5 Item setting and quantity calculation rules

Annex N-A Electrical equipment (code N-DA)

Annex N-B Cables, cable trays and supports (code N-DB)

Foreword

This document was issued on 7 January 2021 by the National Energy Administration of the PRC and takes effect on 1 July 2021.

It is a NB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

It is classified under ICS 01.040.27, Chinese classification F 02.

It replaces NB/T 20259.5-2014, which is superseded.

This code was comprehensively revised from NB/T 20259-2014 Code of valuation on bill of quantities of nuclear power plant construction projects, in accordance with the Notice of the General Office of the National Energy Administration on issuing the 2017 energy industry nuclear power standard formulation (revision) plan and the plan for the English translation and publication of nuclear power standards (Guo Nei Zong Han Ke Ji [2017] No. 136).

NB/T 20259-2021 Code of valuation on bill of quantities of nuclear power plant construction projects consists of one general part and five specialty parts; each specialty part covers both the nuclear island and the conventional island. The code is divided into six parts.

Part 1: General principles.

Part 2: Building works.

Part 3: Process equipment and piping installation works.

Part 4: Ventilation and air conditioning works.

Part 5: Electrical equipment installation works.

Part 6: Automation control instrumentation installation works.

This part is Part 5 of the code: Electrical equipment installation works (hereinafter referred to as this part). It was issued by National Energy Administration Announcement [2021 No. 1], approved on 7 January 2021 and implemented on 1 July 2021.

This part was proposed by the Nuclear Power Standardization Technical Committee of the Energy Industry.

This part is under the jurisdiction of the Institute of Nuclear Industry Standardization.

Main drafting organizations of this part: CGN Engineering Co., Ltd., China Electric Power Planning and Engineering Institute, China Nuclear Power Engineering Co., Ltd.

Main drafters of this part: Fang Wei, Li Pan, Peng Qiong, Dong Chengcheng, Zhang Jian, Zhang Li, Yang Yisheng, Rong Mei, Qu Jun.

1 Scope

NB/T 20259.5-2021 is Part 5 of the Chinese code for bill of quantities valuation on nuclear power plant construction, and it covers the installation of electrical equipment. A bill of quantities code does not set prices: it fixes how items of work are described, coded and measured, so that every tenderer prices the same scope and a submitted price can be checked. This part sets the general provisions and defined terms, the general rules on compiling and pricing a bill, and the establishment and coding of items for the electrical scope of a nuclear plant. The item schedules follow, each item carrying a code, a description, a unit of measurement, the rule for calculating the quantity and the work content it is deemed to include. They cover the nuclear island first - power and auxiliary transformers, medium and low voltage switchgear, uninterruptible power supplies and batteries, cables with their trays, conduits and supports, electrical penetrations, lighting, earthing and lightning protection, and the testing and commissioning of the installed systems - and then the corresponding scope in the conventional island. Risk allocation, variations and provisional sums are dealt with in the general rules. The code replaces the 2014 edition. The replaced edition is printed on the cover as NB/T 20269.5-2014, a typographic error for the 20259 series to which this part belongs.

This part specifies, for the bill of quantities of the nuclear island electrical equipment installation works of nuclear power plant construction projects, the item setting, units of measurement and calculation rules of the sub-divisional work items bill and of the specialty measures items bill, and establishes the item characteristics, main work content and general scope of application of the bill items.

This part applies to quantity measurement and to the preparation of bills of quantities in bill-of-quantities valuation activities during the contracting and implementation phases of the nuclear island electrical equipment installation works of nuclear power plant construction projects.

This part contains the item setting and quantity calculation rules for the nuclear island electrical equipment installation works of nuclear power plants. For items that are missing from or not applicable in this part, additional bill items shall be set in accordance with the requirements of Volume 1 of this code (General principles) combined with the provisions of this part, or with reference to GB 50500 Code of valuation with bill quantity of construction works and the bill-of-quantities valuation codes of other industries. Items involving process, automation control instrumentation, earthwork, masonry and other installation (civil) works shall be handled according to the corresponding provisions of the other specialty parts of this code.

2 Normative references

The following documents are indispensable for the application of this part. For dated references, only the edition cited applies. For undated references, the latest edition (including all amendments) applies.

NB/T 20259.1-2021 Code of valuation on bill of quantities of nuclear power plant construction projects - Part 1: General principles.

NB/T 20259.2-2021 Code of valuation on bill of quantities of nuclear power plant construction projects - Part 2: Building works.

NB/T 20259.3-2021 Code of valuation on bill of quantities of nuclear power plant construction projects - Part 3: Process equipment and piping installation works.

NB/T 20259.4-2021 Code of valuation on bill of quantities of nuclear power plant construction projects - Part 4: Ventilation and air conditioning works.

NB/T 20259.6-2021 Code of valuation on bill of quantities of nuclear power plant construction projects - Part 6: Automation control instrumentation installation works.

NB/T 20023 Guidelines for cost nature and item breakdown of nuclear power plant construction projects.

3 Terms and definitions

For the purposes of this part, the following term and definition apply.

3.1 Option of BQ item: in this part, an alternative bill item that is subordinate to, or parallel with, another main bill item, so that the preparer of the bill of quantities may choose one of the listing methods. In this code it is indicated by adding * to the item code, by adding * after the item name, or by a superscript *.

4 General provisions

4.1.1 This part covers the sub-divisional work items and the measures items of the nuclear

island electrical equipment installation works.

4.1.1 a) Sub-divisional work items: electrical equipment, cables, cable trays and supports, earthing and lightning protection devices, lighting, security equipment, communication and computer application equipment, automatic fire alarm systems and electrical penetrations.

4.1.1 b) Measures items: scaffolding for the nuclear island electrical equipment installation works.

4.1.2 The basic requirements for preparing the bill of quantities of nuclear island electrical equipment installation works of nuclear power plant construction projects, and the related valuation activities, shall comply with the corresponding requirements of Volume 1 of this code: General principles.

4.1.3 The specific scope of application of this part shall also follow the requirements of Annex B of Volume 1 of this code: General principles.

4.1.4 Where general measures items (including general measures items, safe and civilized construction, and temporary works measures items) are involved in preparing the bill of quantities for electrical equipment installation works, they shall be listed according to the corresponding items of Annex A of Volume 1: General principles, taking into account the specialty characteristics of electrical equipment installation and the actual conditions of the proposed project.

4.1.5 The work content of each bill item in this part only briefly describes the main construction processes and operations needed to complete the item. Where the construction content of a bill item differs from the work content in the item setting table and has a substantial effect on valuation, it shall be described in the item characteristics or in the remarks column of that item.

4.1.6 The division between equipment and materials involved in applying this part shall follow NB/T 20023 Guidelines for cost nature and item breakdown of nuclear power plant construction projects.

4.1.7 Unless a bill item sets specific requirements for haul distance and transport, the work content of all bill items in this part includes in-plant transport within the nuclear power plant, and horizontal and vertical transport shall not be considered separately. Transport of semi-finished products, equipment and raw materials outside the plant (site) is not included; such costs shall be included in the unit price of equipment, materials or components.

4.1.8 The work content of equipment installation in this part includes fabrication and installation of foundation iron parts, but excludes fabrication and installation of embedded parts, which shall be listed under the relevant item codes of Volume 2 of this code: Building works.

4.1.9 The work content of all bill items in this part includes fabrication and installation of