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

NB/T 25064-2016

**Guide for construction quality evaluation of conventional island
and BOP of nuclear power plant**

核电厂常规岛及辅助配套设施建设施工质量评价导则

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Foreword

This document was issued on 5 December 2016 by the National Energy Administration of the PRC and takes effect on 1 May 2017.

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 27.120, Chinese classification F 69.

This standard, together with the NB/T 25044 series Code for acceptance of the construction quality of the conventional island and of the auxiliary supporting facilities of nuclear power plants, forms the series of standards for the acceptance and the evaluation of the construction quality of the conventional island and of the auxiliary supporting facilities of pressurized water reactor nuclear power plants, and is intended to be used together with that series.

This standard is drafted in accordance with the rules given in GB/T 1.1-2009 Directives for standardization - Part 1: Structure and drafting of standards.

This standard is proposed by and under the jurisdiction of the China Electricity Council.

Drafting organization of this standard: China Nuclear Power Engineering Co., Ltd.

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Comments and suggestions arising during the implementation of this standard are to be sent to the Standardization Management Centre of the China Electricity Council (No. 1, Baiguang Road Ertiao, Beijing, 100761).

1 Scope

NB/T 25064-2016 sets out how construction quality is evaluated on the conventional island and the balance of plant of a nuclear power station - the turbine building, the electrical and auxiliary buildings, the circulating water system, the switchyard and the supporting facilities

that sit outside the nuclear island proper. It is an evaluation guide rather than a construction specification: it tells an assessor how to score work that has already been built, and how those scores combine into a judgement on a unit of work, a sub-project and the project as a whole. The guide defines the hierarchy of inspection lots, sub-items, items and sub-projects, and fixes the evaluation grades and the pass thresholds at each level. It then sets out the evaluation content and scoring tables for each trade: civil and structural work, steel structures, equipment installation, piping, electrical and instrumentation, ventilation, insulation and painting, together with the documentation and records that must accompany each. Weighting between items, the treatment of non-conformities and of reworked lots, the qualifications of the evaluators, and the form of the evaluation report are all specified, so that two assessors reach the same number from the same evidence. It is used by owners, contractors and supervising engineers during construction and at handover of nuclear power projects in China.

This standard specifies the basic requirements for the evaluation of the construction quality of the conventional island and of the auxiliary supporting facilities (balance of plant) of nuclear power plants.

This standard applies to the evaluation of the excellent construction quality of the conventional island and of the auxiliary supporting facilities of nuclear power plants, carried out on the basis that the works have already been accepted as conforming in quality. It does not cover the office buildings, the canteens and the other buildings (structures) and facilities inside the plant area that are not directly related to production.

The access roads, the wharves, the production and administrative office buildings of the plant front area and the works outside the production area do not take part in the evaluation.

2 Normative references

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

GB/T 6075.2 Mechanical vibration - Evaluation of machine vibration by measurements on non-rotating parts - Part 2: Land-based steam turbines and generators in excess of 50 MW with normal operating speeds of 1500 r/min, 1800 r/min, 3000 r/min and 3600 r/min.

GB/T 7064 Technical requirements for cylindrical rotor synchronous machines.

GB/T 7596 Quality of turbine oil in service in power plants.

GB/T 11348.2 Mechanical vibration - Measurement and evaluation of machine vibration by measurements on rotating shafts - Part 2: Land-based steam turbines and generators in excess of 50 MW with normal operating speeds of 1500 r/min, 1800 r/min, 3000 r/min and

3600 r/min.

GB 50147 Code for construction and acceptance of electrical installation engineering - High voltage electrical equipment.

GB 50148 Code for construction and acceptance of electrical installation engineering - Power transformers, oil-immersed reactors and instrument transformers.

GB 50149 Code for construction and acceptance of electrical installation engineering - Busbar installations.

GB 50168 Code for construction and acceptance of electrical installation engineering - Cable lines.

GB 50169 Code for construction and acceptance of electrical installation engineering - Earthing devices.

GB 50170 Code for construction and acceptance of electrical installation engineering - Rotating electrical machines.

GB 50171 Code for construction and acceptance of electrical installation engineering - Panels, cabinets and secondary circuit wiring.

GB 50172 Code for construction and acceptance of electrical installation engineering - Storage battery installations.

GB 50173 Code for construction and acceptance of electrical installation engineering - Overhead power lines of 66 kV and below.

GB 50254 Code for construction and acceptance of electrical installation engineering - Low voltage apparatus.

GB 50255 Code for construction and acceptance of electrical installation engineering - Electric power converting equipment.

GB 50256 Code for construction and acceptance of electrical installation engineering - Electrical equipment of cranes.

GB 50257 Code for construction and acceptance of electrical installation engineering - Electrical devices in explosive and fire hazardous environments.

DL/T 571 Guide for the operation and maintenance of phosphate ester fire-resistant oil for power plants.

DL/T 705 Quality standard for the seal oil of hydrogen-cooled generators in operation.

JB/T 6227 Test method and evaluation of the gas tightness of hydrogen-cooled electrical machines.

NB/T 25044.1 Code for acceptance of the construction quality of the conventional island