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

GB/T 28551-2012

**Technical guideline for the commissioning of centrifugal pump
sets in nuclear power plants**

核电厂离心泵组调试技术导则

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Quarantine;
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Foreword

This standard rule according to GB/T 1.1-2009 given draft. This standard is proposed and managed by the China Electricity Council. This standard was drafted. Suzhou Thermal Power Research Institute Co., Ltd., China Guangdong Nuclear Power Engineering Co., Ltd., Zhejiang Electric Power Test & Research Institute, Guangdong Electric Network Power Research Institute, Sichuan power industry adjustment tests. The main drafters of this standard. Shao Gang, Liu Yong, Yu Yang, Wang Hong letter, Liu Zhigang, Qiang Wei, Li Guohua, with Jia Wu, Chen Xiaowei, Sun Quanrong, YANG Yan bamboo. Nuclear power plant centrifugal Debugging Technical Guidelines

1 Scope

China's national technical guideline for commissioning the centrifugal pump sets of a nuclear power plant. It specifies the basic technical requirements for the commissioning of the centrifugal pump sets of the conventional island, and it applies to the start-up commissioning tests of those sets. A nuclear plant contains several hundred pumps, and the conventional island - the steam, feedwater, condensate, cooling water and auxiliary systems - contains most of them. They are ordinary centrifugal pumps in engineering terms, and that is precisely why a commissioning guideline is worth having: the equipment is conventional, the consequences of getting it wrong are not, and the discipline applied to safety class equipment has to be extended to machines that would be commissioned casually in a fossil plant. The guideline covers the sequence rather than the pump. The checks before rotation: the installation, the alignment between pump and motor, the direction of rotation, the lubrication, the sealing arrangement and the cooling. The first run: the no-load and coupled running, the vibration and bearing temperatures, the behaviour of the seal. The performance verification: the flow, the head and the power against the guaranteed curve, at the duty points the system actually requires. And the protective functions: the minimum flow arrangement, the trips, the interlocks and the standby start of a duty-standby pair, which is where most commissioning findings actually appear. It also

covers what is recorded, because the vibration and bearing temperature measured at commissioning become the baseline against which the machine is monitored for the rest of its life. The motor is commissioned in accordance with GB/T 25738. Issued on 29 June 2012 and in force since 1 November 2012.

This standard specifies the technical requirements for basic debugging conventional island of nuclear power plants centrifugal group. This standard applies to start commissioning tests of nuclear power plants conventional centrifugal island group.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated edition applies to this article Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 25738 motor commissioning of nuclear power plants Technical Guidelines

JB/T8097 pump vibration measurements and evaluation methods

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Pump pumpassembly Designed to run the pump to achieve the required sum of components, including pumps, prime mover, coupling and guard, hydraulic coupling, shaft seal and the respective Annex separator and cooler pump lubricant (grease) systems, and their respective pipes and mounted on a common base, the control system, if necessary Including heating pump system.

3.2 Start time startingtime Motor current

1.2 times the rated current of the time elapsed from the start.

3.3 Rise time risingtime From the start rotating mechanical rotor speed increases the speed to stabilize the elapsed time.

4 Test Equipment

Test equipment shall meet the requirement of test parameters, generally include, but are not limited to the following.

- b) current, voltage and power measurement device;
- d) high-speed data logger;
- e) a thermometer or temperature monitoring recorder;
- f) pressure gauge;

g) filter pressure monitoring equipment;

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