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

GB/T 9652.2-2019

Testing specification of hydraulic turbine governing systems

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Foreword

GB/T 9652 is divided into the following two parts.

---GB/T 9652.1 Technical requirements for turbine governing system;

---GB/T 9652.2 Hydraulic turbine governing system test.

This part is the second part of GB/T 9652.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 9652.2-2007 "Engine Control System Test", compared with GB/T 9652.2-2007 main technical changes

The following is as follows.

--- The scope of application has been modified and supplemented (see Chapter 1, Chapter 1 of the.2007 edition);

--- The test conditions have been modified and supplemented (see 3.2, 3.4.1,.2007 edition 3.3.1, 3.3.4);

--- Added or modified the hydraulic pressure device adjustment test content (see 6.1.2, 6.2.1, 6.2.2, 6.3.1, 6.3.2, 6.3.3,.2007)

Versions 6.27.1, 6.27.2, 6.28.2, 6.28.3);

--- Considering that the mechanical hydraulic governor and analog circuit governor have been discontinued in China for more than ten years, the current turbine governor products are

It is a microcomputer type governor, so the relevant provisions of the mechanical hydraulic governor and the analog circuit electro-hydraulic governor have been deleted (see the.2007 edition).

6.1.4, 6.3, 6.10.1, 6.10.2, 6.10.3);

--- Supplemented the test content of the frequency measurement link (see 6.10.2);

--- Supplemented the test content of the electrical-mechanical/hydraulic conversion components (see 6.11.3, 6.11.5);

--- Supplementary method for determining the reaction time of the relay (see 6.14, 6.19 of the.2007 edition);

--- Supplement and adjust the adjustment parameter calibration method of the microcomputer regulator (see 6.16, 6.11 of the.2007 edition);

--- Added the test content of the pump turbine governing system (see 6.20, 6.33, 6.34, 6.35, 6.36, 6.38);

--- Added the hydraulic drift test content (see 6.24);

--- Supplementary to the no-load disturbance test method (see 6.26.2, 6.21 of the.2007 edition);

--- Increased load adjustment test content (see 6.27);

--- Removed the oil pump shaft power test, efficiency test, vibration test, etc. (see the.2007 edition of 6.27.2.2, 6.27.2.3,

6.27.2.4, 6.27.2.5, 6.27.2.6, 6.27.2.7, 6.27.3, 6.27.4, 6.27.5);

--- Added a frequency modulation test, modeling test content (see 6.28, 6.29);

---Adjust and supplement the experimental content of the isolated network adjustment (see 6.30, 6.22 of the.2007 edition);

--- Adjusted and improved Appendix A (see Appendix A, Appendix A of the.2007 edition).

This part uses the redrafting method to refer to IEC 60308.2005 "Engine Control System Test", and IEC 60308.2005

The degree of consistency is non-equivalent.

This part was proposed by China Electrical Equipment Industry Association.

This part is under the jurisdiction of the National Turbine Standardization Technical Committee (SAC/TC175).

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1 Scope

This part of GB/T 9652 specifies the test classification, test items, test conditions and methods, and test reports of the turbine governing system.

Write requirements.

This part is applicable to the type test, factory test, power station test and acceptance of the turbine governing system (including the pump turbine governing system).

Test after test and overhaul.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 150.4 Pressure vessels - Part 4. Manufacture, inspection and acceptance

GB/T 3797 electrical control equipment

GB/T 9652.1 Technical requirements for turbine governing system

GB/T 17626.4 Electromagnetic compatibility test and measurement technology Electrical fast transient burst immunity test

GB/T 31066 Electrotechnical terminology turbine control system

Technical specification for DL/T 1120 turbine adjustment system test and real-time simulation device

DL/T 1235 Synchronous generator prime mover and its regulation system parameters measurement and modeling guidelines

Technical Guidelines for Grid Operation of DL/T 1245 Turbine Regulating System

DL/T 1800 Turbine Regulating System Modeling and Parameter Measurement Technical Guidelines

JB/T 7036 hydraulic isolation accumulator technical conditions

JB/T 7037 Hydraulic Isolated Accumulator Test Method

JB/T 7038 Hydraulically Isolated Accumulator Housing Specifications

3.1.1 Determine the type and project of the test and prepare a test plan.

3.1.2 Develop safety precautions, pay attention to prevent accidental pressure valve failure, inlet valve or fast door failure, unit overspeed protection system and

Abnormal water system, electric shock and other equipment and personal accidents.

3.1.3 Prepare the drawings and materials related to this test.

3.1.4 Equipped with the required tools, equipment, test power, instruments/instruments and sensors.

3.2 Test instruments, instruments

3.2.1 Measuring instruments and meters shall be within the validity period of inspection or verification.

3.2.2 Before the test, the conversion coefficient of each physical quantity to be collected should be determined.