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**Guide for model acceptance tests of 1000 MW class Francis
hydraulic turbines**

1000MW级混流式水轮机模型验收试验导则

(English Translation)

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Foreword

This instructional document has been drafted in accordance with the rules given in GB/T 1.1-2009.

This guidance document is proposed by China Electrical Equipment Industry Association.

This Guidance Document is organized by the National Committee for Standardization of Hydraulic Turbines (SAC/TC175).

The main drafting of the guidance of technical documents. Harbin Institute of Electrical Engineers, China Institute of Water Resources and Hydropower Research, Dongfang Electric Corporation Dongfang Electric Machinery Co., Ltd., China Three Gorges Corporation, China Construction Group East China Survey and Design Institute Co., Ltd., Yangtze Survey Regulations Planning Design Research Co., Ltd.

Introduction

The overall level of large-scale hydropower equipment manufacturing industry continues to increase, stand-alone capacity continues to grow, stand-alone capacity of 1000MW hydroelectric generating units Work has been staged results, the need to organize the development of standards, production for the crew to provide technical preparation.

This Guidance Document is based on the research, summary and summary of the model tests and operation experience of the existing large hydro turbines under construction Basis, according to the relevant current international, national and industry standards or norms for preparation.

The basic principles for the compilation of this technical guidance document are to highlight the characteristics and important concerns of a 1000MW turbine.

Stage in the development phase of the product guidance document.

1000MW Francis turbine Model Acceptance Test Guidelines

1 Scope

This Guidance Document provides for the determination of whether the value of the contractual guarantee for the main hydraulic properties has been met Flow turbine model acceptance test.

This Guidance Document is applicable to the same-station comparison test of 1000MW Francis turbine model under laboratory conditions and model acceptance test.

The 1000MW Francis turbine of this Guidance Document refers to the rated power (or nameplate power) of the turbine rated power (Or nameplate power) for the 862MW ~ 1100MW, and the rated head range of 100m ~ 300m Francis turbine.

As long as the structure or part of the machine does not affect the performance of the model or the relationship between the model and the prototype, Does not involve the detailed structure of the machine, nor the mechanical properties of the machine part.

2 Normative references

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

Hydraulic turbine, accumulator pump and pump turbine flow passage components - Technical conditions GB/T 15613.1-2008 Turbine, storage pump and pump turbine model acceptance test Part I. General provisions (IEC 60193:1999, NEQ) GB/T 15613.2-2008 Turbine, storage pump and pump turbine model acceptance test - Part II. Conventional hydraulic performance test Test (IEC 60193:1999, NEQ) GB/T 15613.3-2008 Turbine, storage pump and pump turbine model acceptance test - Part III. Auxiliary performance test (IEC 60193:1999, NEQ)

3 Terms, definitions and symbols

GB/T 15613.1-2008 ~ GB/T 15613.3-2008 defined terms, definitions and symbols apply to the guidance of technical documents, A few additional terms are listed below, some of which are related to the amount of vibration shown in Figure 1.

Model on the same stage contrast test modelcomparetestatthesametestand in the bidding process of power station turbine, according to the buyer's requirement, in order to evaluate the hydraulic performance level of model turbine for bidding by different sellers, the same test bench on the side of the model turbines provided by the seller of the turbine performance tests conducted by the third party on the test results Compare 3.2 Model Acceptance Test After the contractor of the hydroelectric station sign the contract with the buyer, the final design of the model for the seller of the turbine on the seller's test bed or a designated third-party test Hydraulic test of the platform.