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NB

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

NB/T 10075-2018

Replacing DL/T 5338-2006

**Specification for karst engineering geological investigation of
hydropower projects**

水电工程岩溶工程地质勘察规程

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Foreword

This document was issued on 29 October 2018 by the National Energy Administration of the PRC and takes effect on 1 March 2019.

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 27.140, Chinese classification P 59.

It replaces DL/T 5338-2006, which is superseded.

This Specification has been revised in accordance with the requirements of the Notice of the National Energy Administration on Issuing the Second Batch of the 2014 Plan for the Preparation and Revision of Sector Standards in the Field of Energy (Guo Neng Ke Ji [2015] No. 12). The drafting group carried out extensive investigation and research, summarised practical experience in earnest, and revised the Specification on the basis of a wide solicitation of comments.

The main technical contents of this Specification are: basic requirements; engineering geological investigation of karst for the reservoir; engineering geological investigation of karst for the dam site; engineering geological investigation of karst for underground chambers; and the result report.

The main technical changes introduced by this revision are listed in the items that follow.

Terms such as soluble rock, clastic rock corrosion, structure gap and rate of hole drilling have been added.

Analysis and assessment of the influence of underground chamber excavation on the surrounding hydrogeological environment has been added.

The contents of the result report have been expanded.

The following contents have been added: division of the development degree of karst and of dissolved weathering in carbonate rock areas; types of hydrodynamic conditions of karst valleys; curve types of karst groundwater level; the survey table of karst features; the survey table of karst springs; and the grading of karst declogging and mud-bursting.

The Chinese term rendered as kasite in the former specification has been replaced throughout by the term yanrong, that is, karst.

The former clause on the analysis and assessment of submergence-related waterlogging problems has been revised into the analysis and assessment of karst waterlogging problems, and the former clause on the analysis and assessment of dam foundation stability, leakage and leakage stability problems has been revised into the analysis and assessment of dam foundation stability and leakage problems.

The former appendix on the types of carbonate rock layers and groups has been revised into the layer and group types of soluble rock, and the former appendix on the hydrogeological structure types of valley karst has been revised into the hydrogeological structure types of karst.

The reduction factor of external water pressure has been revised.

This Specification is under the administration of the National Energy Administration. It was proposed by, and is under the routine administration of, the China Renewable Energy Engineering Institute. The Standardization Technical Committee for Hydropower Investigation and Design of the Energy Sector is responsible for the interpretation of its specific technical contents.

Comments and suggestions arising during the implementation of this Specification should be sent to the China Renewable Energy Engineering Institute, No. 2 Beixiaojie, Liupukang, Xicheng District, Beijing, postcode 100120.

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The Specification was approved by Announcement No. 12 of 2018 of the National Energy Administration, dated 29 October 2018.

That announcement was issued under the Notice of the National Energy Administration on Issuing the Administrative Measures for Sector Standardization in the Field of Energy (Trial) and the Detailed Rules for Their Implementation (Guo Neng Ju Ke Ji [2009] No. 52).

Under that announcement the National Energy Administration approved and issued 204 sector standards, comprising 54 energy standards (NB), 8 petrochemical standards (NB/SH) and 142 petroleum standards (SY), the first of which is the standard on mine-use air-cooled adjustable-speed magnetic couplings.

In the catalogue of sector standards annexed to the announcement, this Specification appears as serial number 30, standard number NB/T 10075-2018, superseded standard DL/T 5338-2006, approval date 29 October 2018, implementation date 1 March 2019. No adopted international standard reference is shown.

Structure of the Document

The Specification is organised in seven chapters followed by nine appendices, a wording explanation, a list of quoted standards and an explanation of provisions; the English chapter and appendix titles reproduced here are those printed in the official Contents of the standard.

Chapter 1 General Provisions, page 1, and Chapter 2 Terms, page 2, establish the purpose, the scope and the nineteen defined terms.

Chapter 3 Basic Requirements, page 4, fixes the task, the technical methods and the working steps of the investigation.

Chapter 4 Engineering Geological Investigation of Karst for Reservoir, page 5, is divided into 4.1 General Requirements, 4.2 Investigation Contents, 4.3 Investigation Methods, 4.4 Analysis and Assessment for Leakage and 4.5 Analysis and Assessment for Karst Waterlogging.

Chapter 5 Engineering Geological Investigation of Karst for Dam Site, page 17, is divided into 5.1 General Requirements, 5.2 Investigation Contents, 5.3 Investigation Methods and 5.4 Analysis and Assessment for Foundation Stability and Leakage.