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

NB/T 10085-2018

Code for hydrological forecasting of hydropower projects

水电工程水文预报规范

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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 P59.

This code was formulated in accordance with the requirements of the Notice of the National Energy Administration on Issuing the Second Batch of Energy Industry Standard Formulation (Revision) Plans for 2014 (Guo Neng Ke Ji [2015] No. 12). The drafting group carried out extensive investigation and research, carefully summarized practical experience and, on the basis of widely soliciting opinions, formulated this code.

The main technical contents of this code are: basic data, flood forecasting, runoff forecasting, ice forecasting and tide forecasting, hydrological forecasting during river closure and reservoir impoundment, rating criteria of forecasting schemes, and operational forecasting.

The National Energy Administration is in charge of the administration of this code. China Renewable Energy Engineering Institute proposed it and is responsible for its routine management, and the Energy Industry Standardization Technical Committee for Hydropower Planning and Reservoir Environmental Protection is responsible for the explanation of specific technical contents. Comments and suggestions arising during implementation should be sent to China Renewable Energy Engineering Institute (address: No. 2 Liupukang North Street, Xicheng District, Beijing; postcode: 100120).

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Announcement of the National Energy Administration

National Energy Administration Announcement No. 12 of 2018: in accordance with the relevant provisions of the Notice of the National Energy Administration on Issuing the Administrative Measures for Standardization of Energy Industry Standards (Trial) and Their Implementation Rules (Guo Neng Ke Ji [2009] No. 52), and upon review, the National Energy Administration approved 204 industry standards, beginning with Air-cooled Speed-regulating Magnetic Coupling for Mining, comprising 54 energy standards (NB), 8 petrochemical standards (NB/SH) and 142 petroleum standards (SY), which are hereby issued. National Energy Administration, October 29, 2018.

In the attached catalogue of industry standards, NB/T 10085-2018 Code for Hydrological Forecasting of Hydropower Projects is listed as item No. 40, with no standard superseded and no adopted international standard; approval date 2018-10-29, implementation date 2019-03-01.

Remaining chapters (from the official table of contents)

Chapter 5 Runoff Forecasting (pages 8 to 9): 5.1 General Requirements; 5.2 Contents and Methods of Runoff Forecasting Schemes; 5.3 Rating and Verification of Runoff Forecasting Schemes; 5.4 Applicability of Runoff Forecasting Schemes.

Chapter 6 Ice Forecasting and Tide Forecasting (page 10): 6.1 General Requirements; 6.2 Ice Forecasting; 6.3 Tide Forecasting.

Chapter 7 Hydrological Forecasting during River Closure and Reservoir Impoundment (page 11): 7.1 Hydrological Forecasting during River Closure; 7.2 Hydrological Forecasting

during Reservoir Impoundment.

Chapter 8 Rating Criteria of Forecasting Schemes (pages 12 to 15): 8.1 Forecast Error, Permissible Forecast Error and Forecast Qualified Rate; 8.2 Rating Criteria of Flood Forecasting Schemes; 8.3 Rating Criteria of Runoff Forecasting Schemes; 8.4 Rating Criteria of Ice Forecasting Schemes; 8.5 Rating Criteria of Tide Forecasting Schemes.

Chapter 9 Operational Forecasting (pages 16 to 19): 9.1 Hydrological Stations Network and Water Regime Information; 9.2 Requirements for Organization and Personnel; 9.3 Software Systems and Forecasting Operations; 9.4 Information Reporting and Dissemination; 9.5 Forecast Accuracy Evaluation; 9.6 Forecast Analysis and Summary.

Appendix A Contents of Flood Forecasting Scheme Report (page 20), referred to in clause 4.2.8.

Appendix B Contents of Runoff Forecasting Scheme Report (page 21).

Explanation of Wording in This Code (page 22); List of Quoted Standards (page 23).

Addition: Explanation of Provisions (from page 25), giving the explanatory notes to the clauses of the code.

1 Scope

NB/T 10085-2018 is the Chinese code for hydrological forecasting on hydropower projects, both during construction and in operation. Forecasts are what allow a reservoir to be run safely and profitably: a flood forecast tells the operator how much to draw down before the peak arrives, an inflow forecast sets the generation schedule, and on a construction site a forecast is what decides whether the cofferdam will be overtopped during river closure. The code sets the general provisions, the defined terms and symbols, and the basic requirements on the data, the hydrometric station network and the forecasting system. It then covers the forecasting of each phenomenon: flood forecasting by rainfall-runoff models and by routing, medium and long range runoff forecasting for dispatch planning, ice forecasting where freeze-up and break-up affect intakes and structures, and tidal forecasting for plants near estuaries. Forecasting for construction is treated separately - during river diversion and closure, and during the first filling of the reservoir. The code sets the criteria by which a forecasting scheme is evaluated and graded before it is used, the permitted error of each type of forecast, and the operational forecasting procedure: data collection, real-time correction, issue of forecasts and warnings, and the post-event evaluation of accuracy. The management of the forecasting system and its records close the document.

1.0.1 This code is formulated to standardize the work contents, methods and technical requirements of hydrological forecasting for hydropower projects.

1.0.2 This code is applicable to hydrological forecasting of hydropower projects.