

BSI

BS 5671:1979
IEC 545:1976

1996年8月20日

UDC 621.224.004

1986年3月1日 16:15 18:40

1987年10月 22
98年7月2

1987年10月

1984年7月20日

2004年6月3日

2000年9月28日

99年7月20日

Guide for
Commissioning, operation and maintenance
of hydraulic turbines

Guide pour la réception, l'exploitation et l'entretien des turbines hydrauliques

Anleitung zur Inbetriebnahme, zum Betrieb und zur Wartung von hydraulischen Turbinen



2002年6月2日

2006年7月4日

2005年7月12日

一九八四年十月三十日



050920004298

British Standards Institution

Gr 7

National foreword

This British Standard was prepared under the direction of the Mechanical Engineering Standards Committee and is identical with IEC Publication 545 : 1976 'Guide for commissioning, operation and maintenance of hydraulic turbines'.

Terminology and conventions. The text of the international standard has been approved as suitable for publication, without deviation, as a British Standard. Some terminology and certain conventions are not identical with those used in British Standards; attention is especially drawn to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the base-line as the decimal marker.

Wherever page numbers are quoted in connection with references to figures in this publication they are IEC page numbers (shown in brackets at the foot of each page).

Cross-references. At present there are no corresponding British Standards for the international standards referred to.

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British Standard Guide for

Commissioning, operation and maintenance of hydraulic turbines

CHAPTER I: GENERAL

1. Scope and object

The purpose of this guide is to establish, in a general way, suitable procedures for commissioning hydraulic turbines and associated equipment, and to indicate how such turbines and equipment should be operated and maintained.

It is understood that a publication of this type will be binding only if, and to the extent that, both contracting parties have agreed upon it.

The guide excludes matters of purely commercial interest, except those inextricably bound up with the conduct of commissioning, operation and maintenance.

The guide applies to impulse and reaction turbines of all types, and especially to large turbines directly coupled to electric generators. It applies also to pump-turbines when operating as turbines.

The guide is not concerned with water conduits, gates, valves, drainage pumps, cooling-water equipment, generators, etc., except where they cannot be separated from the turbine and its equipment.

Wherever the guide specifies that documents, drawings or information shall be supplied by a manufacturer (or by manufacturers), each individual manufacturer shall be required to furnish the appropriate information for his own supply only.

2. Terms and definitions

Terms

2.1 *Commissioning*

2.2 *Operation*

2.3 *Maintenance*

2.4 *Pre-start tests*

2.5 *Initial run*

2.6 *Test run*

2.7 *Test operation*

2.8 *Test operation period*

Definitions

Testing of new equipment to check its conformity with contractual specifications, as well as operation of the equipment until formally accepted by the purchaser.

Utilization of the equipment to produce energy, or a state of readiness for such production.

Activity on the equipment directed to its conservation in a state of optimum operating condition.

Test between completion of erection of the equipment and initial run.

First movement of rotating parts after erection.

Operation to obtain one set of data for a specific test.

Utilization of the equipment for testing purposes.

Test period following initial run and followed by test service. It includes no-load runs for checking power plant equipment, as well as load runs and load rejection tests.