

# TECHNICAL REPORT

# IEC TR 62140-2

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2002-10

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## Fossil-fired steam power stations –

### Part 2: Drum-level control

*Centrales à vapeur consommant des combustibles fossiles –*

*Partie 2:  
Contrôle du niveau d'eau des ballons*

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### FOSSIL-FIRED STEAM POWER STATIONS –

#### Part 2: Drum-level control

#### FOREWORD

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The main task of IEC technical committees is to prepare International Standards. However, a technical committee may propose the publication of a technical report when it has collected data of a different kind from that which is normally published as an International Standard, for example "state of the art".

IEC 62140-2, which is a Technical Report, has been prepared by IEC technical committee 65: Industrial-process measurement and control.

The text of this Technical Report is based on the following documents:

Enquiry draft	Report on voting
65/272/CDV	65/284/RVC

Full information on the voting for the approval of this Technical Report can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with ISO/IEC Directives, Part 2.

IEC 62140 consists of the following parts, under the general title *Fossil-fired steam power stations*:

Part 1: Limiting controls

Part 2: Drum-level control

Part 3: Steam-temperature control

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this Technical Report may be issued at a later date.

Withdrawn

## INTRODUCTION

This Technical Report is part of a series of Technical Reports which contain advice on the proper design and operation of control circuits in fossil-fired power stations. They are based on technical solutions used today by some member nations and provide also the background information necessary for proper understanding.

For the time being, all the different national documents tackling the subject are deemed to be at the same level. They always present or imply particular technical solutions which, although finally aimed at satisfying similar functional user needs, are different from country to country and often inconsistent among themselves. Such documents are considered to be actual barriers to international trade.

The need for new standards formalizing an internationally agreed approach to express the functional need of fossil-fired power plant operators and suppliers is clearly identified by all the experts. Such documents could facilitate and develop the international business in this particular domain for the profit of the suppliers and the customers. The IEC 62140 series should consider the existing national documents presenting national solutions as a technical basis and should be consistent with them.

In the absence of an internationally agreed approach, this Technical Report is to be strictly considered as an example of particular technical solutions at a given time. It is only aimed at stimulating the debate in order to encourage the convergence of views on the subject and should not be transformed into an International Standard.

There are two types of technical reports within this series.

The reports of the first type refer to specific control circuits of steam generators, such as drum-level control or steam-temperature control and that under normal operational conditions.

The reports of the second type show special means to ensure proper operation also under restricted conditions, for example, during run-up and run-down or in the event of anomalous operating states, or they deal with super-ordinated control circuits, for example, load control or frequency control systems. These reports refer generally to the power station unit as a whole.

Each of the reports within this series is independent from each other; their contents, however, are largely coordinated. The series is to be supplemented.

## FOSSIL-FIRED STEAM POWER STATIONS –

### Part 2: Drum-level control

#### 1 Scope

This Technical Report deals with drum-level control of fossil-fired steam power stations with natural or forced circulation.

The report starts with a description of the controlled system, its structure and design, its behaviour in steady, transient and disturbance state. From this, the required control structure may be developed. Consequently, three well-proven configurations of control circuits are shown and the field of application of each is given. The report ends with the requirements for the measuring elements and actuators which are necessary to complete the control circuits. There may be special national legal requirements, for example, regarding drum-level monitoring and safety equipments, and they would have to be considered.

Withdrawn