

ICS 27.160
CCS F 12



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 45310-2025

**Specification for main control system of solar power tower
plant**

塔式太阳能光热发电站主控制系统技术条件

Issued on: February 28, 2025

Implemented on: September 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Preface	III
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Abbreviations	2
5 General Requirements	2
6 System Architecture	2
7 Application Functions	4
8 System Requirements14	19
9 Technical Documents18	19
10 Packaging and storage requirements	19
11 Factory Function Test.....	19

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China Electricity Council.

This document is under the jurisdiction of the National Solar Thermal Power Generation Standardization Technical Committee (SAC/TC565).

This document was drafted by: China Energy Engineering Group Technology Development Co., Ltd., China Energy Engineering Group Co., Ltd. Engineering Research Institute, China Electric Power Engineering Consulting Group Northwest Electric Power Design Institute Co., Ltd., Zhejiang University, and China Power Construction Engineering Consulting Co., Ltd.

The main drafters of this document are: Xu Jigang, Liu Xinlong, Xiao Gang, Xu Zhiqiang, Zhang Wentao, Wu Feng, Qiu Tao, Xiao Haojin, Tian Yao, Liu Tianying, Zhang Jiaquan, Liu Tao, Chen Yongan, Kou Zhibo, Wang Wei, Gao Song, Zhu Peiwan, Lu Guangyu, Qi Cheng.

Main control system of tower solar thermal power station Technical conditions

1 Scope

This document specifies the system architecture, application functions, system equipment requirements, technical documents, Packaging and storage requirements, describes the factory functional test method.

This document is applicable to the main control of new, expanded and rebuilt molten salt working fluid tower solar thermal power stations using steam turbine generator sets.

Design, manufacture, testing, operation and maintenance of the system.

2 Normative references

GB/T 2421

GB/T 4208

GB/T 13384

GB/T 17626.2

GB/T 17626.3

GB/T 17626.4

GB/T 17626.5

GB/T 17626.8

GB/T 17626.11

GB/T 18271.3

GB/T 33009.1

GB/T 40104

3 Terms and definitions

The terms and definitions defined in GB/T 40104 and the following apply to this document.

3.1 Main control system main control system

Data collection, processing, control and protection of the main production processes of tower solar thermal power stations, including heat collection, heat storage, heat exchange and power generation computer system.

3.2 coordinated control

Perform overall load balance control on steam generator and steam turbine generator set, and maintain the active power and main steam pressure of the set Automatic control of main parameters within the allowable range.

chinastandards.org · PREVIEW