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

GB/T 21427-2025

Replacing GB/T 21427-2008

**Special environmental conditions - Technical requirements and
test methods for internal combustion engine power station
systems in dry heat and desert conditions**

特殊环境条件 干热沙漠对内燃机电站系统的技术要求及试验方法

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting is scheduled. This document replaces GB/T 21427-2008 "Technical Requirements and Tests for Internal Combustion Engine Power Station Systems under Special Environmental Conditions. Hot and Dry Deserts". Compared with GB/T 21427-2008, the main technical changes in the "Methods" are as follows, except for structural adjustments and editorial modifications.

--The scope has been changed (see Chapter 1, Chapter 1 of the.2008 edition); --The term "internal combustion engine power station system" has been added (see 3.1); --The "General Provisions" section has been changed to "General Rules" and related requirements have been added (see 4.1,.2008 version 4.1). --Changed the following. "Environmental conditions in hot and dry desert regions", "Conditions for rated output power", and "Conditions for specified output power (with allowable corrections)". Related content (see 4.2.1, 4.2.2, 4.2.3, and 4.2.1, 4.2.2,

4.2.3 in the.2008 edition). --Added definitions for the abbreviations "Data Center Power (DCP)" and "Maximum Power of Small Power Generator Sets (MAX)" (see 4.3). --Changed the content related to "Electrical Specifications" (see 4.5,.2008 version 4.5). --The wording regarding sealing has been changed (see 4.6,.2008 edition of 4.6). --The relevant content regarding "insulation resistance" and "phase sequence" has been changed (see 4.7.2, 4.7.4, and

4.7.4 in the.2008 version). --Added requirements for "illuminance", "emergency shutdown" and "safety protection measures" (see 4.7.5,

4.7.6 and 4.7.7). --The relevant content of "Electrical Protection" and "Mechanical Protection" has been changed (see 4.8.1, 4.8.2, and

4.7.7 in the.2008 version). --Added requirements related to "concentration of hazardous substances", "radio interference", and "smoke opacity" (see 4.10.3, 4.10.4, and 4.10.5).

--Added relevant content on "parameter requirements" (see 4.11); --The relevant content of "Structure and Design" has been changed (see 4.12,

4.8 in the.2008 edition). --Change "Quality Assurance" to "Testing Rules" or "Testing Methods" (see Chapters 5 and 6, Chapter 5 in the.2008 edition); --The relevant content on "Packaging, Transport and Storage" has been changed (see Chapter 7, Chapter 6 of the.2008 edition). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the China Electrical Equipment Industry Association. This document was drafted by: Lanzhou Power Vehicle Research Institute Co., Ltd., Saiwat (Shandong) Power Technology Co., Ltd., and Jiangxi Tsinghua. Taihao Sanbo Motor Co., Ltd., Zhejiang Uniway Machinery Co., Ltd., State Grid Jiangsu