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

GB/T 23751.1-2009

Micro fuel cell power systems -- Part 1: Safety

微型燃料电池发电系统 第1部分：安全

(English Translation)

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Foreword

GB/T 23751 "micro fuel cell power generation system" consists of the following three parts.

--- Part 1. Safety;

--- Part 2. Performance test methods;

--- Part 3. interchangeability.

This part of GB/T 23751 "micro fuel cell power generation system," Part 1.

The partial modification using IEC 62282-6-100:2007 "micro fuel cell power systems - Part 1. Safety." this part of IEC 62282-6-100:2007 compared to main changes are as follows.

--- Remove the foreword international standards, national standards increase the preface;

--- IEC 62282-6-100:2007 international standard referenced in our country who are adopted as a standard, with reference to this part of the country National standards instead of the corresponding international standards;

--- International standard reference standard missing IEC 60812, has done a corrected;

increase the reference standard. GB/T 7829 and GB/T 20042.1-2005;

--- Cancel the fuel cell, the fuel cell power systems, micro fuel cell power generation system, the fuel cell stack, micro fuel cell module Block, the original battery, rated power, fuel leaks, can not contact with the liquid, the normal working conditions and other terms;

--- For ease of reference Appendix to this part of the modification of using IEC 62282-6-100 CDV files listed in Appendix A, Appendix B, Appendices C and D, taking into account the limitations of boron hydride and butane solid oxide fuel cell development of two kinds of miniature, did not use Appendix E, Appendix F, Annex G and Annex H;

--- 7.3.12 type test in the emission test to selectively type tests;

--- Individual editorial changes.

This section in Appendix A, Appendix B, Appendix C and Appendix D are normative appendix.

This part is proposed by the China Electrical Equipment Industrial Association.

This part of the National Standardization Technical Committee of the fuel cell (SAC/TC342) centralized.

This section is drafted. Beijing speeding Green Energy Power Technology Co., Ltd., Beijing Electrical Machinery Industry Technology Research Institute of Economy, Branch School of Dalian Institute of Chemical Physics.

1.1 Overview

a) This section applies to portable, DC output voltage does not exceed 60V, output power does not exceed 240W micro fuel cell Power systems, micro fuel cell power units and fuel containers. Portable fuel cell power generation system if the output voltage exceeds the Limit, the reference IEC 62282-5-1.

b) in this section refers to the external safety circuit GB 4943-2001 as defined in 1.2.8.6 Safety Extra Low Voltage (SELV) power Road and 2.5 within the meaning of limited power. Internal circuit or the DC voltage exceeds 60V output power exceeding 240W Micro the fuel cell power generation system or a separate unit in the reference standard GB 4943-2001.

c) This section provides all the micro fuel cell power systems, micro fuel cell power units and fuel container in normal use, send Health predictability and misuse transport users in case of security requirements. Carried out by the manufacturer or trained technical personnel Fuel refill container after this section shall meet all the requirements of this part of the fuel container can not be referred to again by the user Filling.

d) This section does not apply to products GB 2900.35-2008 hazardous locations as defined in Chapter 3.

e) micro fuel cell power generation system block diagram shown in Figure 1.

1.2 Fuel and technology

a) This section includes all parts of the appendix, including micro fuel cell power generation system is suitable for 1.1 Definition of micro fuel cells move Power units and fuel containers.

b) of this section in Chapter 1 to Chapter 8 includes the use of aqueous methanol or methanol as a direct methanol fuel cell fuel. Chapters 1 to Chapter 8 includes specific requirements for the use of proton exchange membrane technology for direct methanol fuel cell. Chapter 1 to Chapter 8 also package General requirements include all of the fuel cells and fuel for Appendices A to D defined.

c) Appendices A to D comprising the fuel and fuel cell technologies.

--- Appendix A includes the use of formic acid as the fuel of the micro fuel cell power systems, micro fuel cell power units and a fuel container, wherein the formic acid content of not more than 85%. These systems and units use direct formic acid fuel cell technology.

--- Appendix B includes the hydrogen-absorbing alloy in the hydrogen gas as a fuel for micro fuel cell power systems, micro fuel cell power Unit and fuel container. These systems and units use proton exchange membrane fuel cell technology.

--- Appendix C include methanol and water into the reformer via the reformer hydrogen (after being injected directly into the fuel cell stack) as a fuel Material micro fuel cell power systems, micro fuel cell power units and fuel containers. These systems and units use Proton exchange membrane fuel cell technology.

--- Appendix D includes the use of aqueous methanol or methanol-based compound obtained from methanol as a fuel made of micro fuel cells Power systems, micro fuel cell power units and fuel containers. These systems and units use direct methanol fuel cell technology.