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

GB/T 30084-2013

Portable fuel cell power system -- Safety

便携式燃料电池发电系统-安全

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard uses the translation method identical with IEC 62282-5-1:2012 "Fuel cell technologies - Part 5-1. Portable fuel cell power generation system security".

This part of the "Normative references" in the reference standard, and where there are IEC (or ISO) the corresponding national standards are made on behalf of the national standards for, from the technical content and the format does not affect the preparation of this part identical with IEC 62282-5-1:2012.

The international standard specification document referenced correspondence between consistency of the following documents.

GB 2099.1-2008 plug socket for household and similar purposes - Part 1. General requirements (IEC 60884-1:2006, IDT) GB/T 2423.55-2006 Environmental testing for electric and electronic products Part 2. Test methods - Test Eh. Hammer tests (IEC 60068-2-75:1997, IDT) GB 3836.1-2010 Explosive atmospheres - Part 1. General requirements for equipment (IEC 60079-0:2007, MOD) GB 3836.5-2004 Electrical equipment for explosive gas atmospheres - Part 5. pressurized enclosure type "p" (IEC 60079-2:2001, MOD) GB 3836.8-2003 Electrical equipment for explosive gas atmospheres - Part 8. "n" electrical apparatus (IEC 60079-15:2001, IDT) GB 3836.14-2000 Electrical

apparatus for explosive gas atmospheres - Part 14. Classification of hazardous areas (IEC 60079-10.

1995, IDT)

GB 4208-2008 housing protection (IP Code) (IEC 60529:2001, IDT) GB 4706.1-2005 household and similar electrical appliances - Safety - Part 1. General requirements (IEC 60335-1:2001, IDT) GB/T 5169.11-2006 Fire hazard testing for electric and electronic products - Part 11. Glowing/hot-wire based test methods to Glow-wire flammability test method for products (IEC 60695-2-11:2000, IDT) GB/T 5169.5-2008 Fire hazard testing for electric and electronic products - Part 5. Test flames - Needle-flame test method means Confirmatory test arrangement and guidance (IEC 60695-11-5:2004, IDT) GB/T 5169.13-2006 Fire hazard testing for electric and electronic products - Part 13. Glowing/hot-wire based test methods - Materials the glow-wire ignitability test method (IEC 60695-2-13:2000, IDT) GB/T 5169.16-2008 Fire hazard testing for electric and electronic products - Part 16. Test flames - 50W horizontal and vertical fire Flame test methods (IEC 60695-11-10:2003, IDT) GB/T 5169.17-2008 Fire hazard testing for electric and electronic products - Part 17. Test flames - 500W flame test methods (IEC 60695-11-20:2003, IDT) GB/T 7826-1987 system reliability analysis techniques for failure mode and effects analysis (FMEA) procedure (IEC 60812. 1985, IDT) GB 8897.4-2008 Primary batteries - Part 4. Safety requirements for lithium batteries (IEC 60086-4:2007, IDT) GB/T 11026.4-1999 determine the electrical insulation material heat resistance guide - Part 4. Ageing ovens - Single-chamber ovens (IEC 60216-4-1:1990, IDT) GB 14536.1-2008 household and similar electrical controls - Part 1. General requirements (IEC 60730-1:2003, IDT) GB 14536.6-2008 household and similar use Particular requirements for electrical controls automatic electrical burner control systems (IEC 60730-2-5:2004, IDT) GB 14536.19-2006 household and similar electrical controls for electrically operated gas valve special requirements, including mechanical requirements (IEC 60730-2-17:2001, IDT) GB/T 16273.2-1996 equipment graphic symbol index and outline (ISO 7000. 1989, IDT) GB/T 16842-2008 protective shell for inspection and test equipment used with (IEC 61032:1997, IDT) GB 16895.21-2011 low-voltage electrical installations - Part 4-41. Protection for safety Protection against electric shock (IEC 60364-4-41:2005, IDT) GB/T 16935.1-2008 within low-voltage systems Insulation coordination for equipment - Part 1. Principles, requirements and tests (IEC 60664-1.

2007, IDT)

GB/T 17045-2008 General Protection against electric shock devices and equipment (IEC 61140:2001, IDT) GB 17625.1-2003 Electromagnetic compatibility - Limits for harmonic current emissions (equipment input current $\leq 16A$) (IEC 61000-3-2:2001, IDT) GB 17625.2-2007 Electromagnetic compatibility limits of the rated current per phase $\leq 16A$ and unconditional access to public low-voltage supply device Voltage electricity generated in the system, voltage fluctuations and flicker limits (IEC 61000-3-3:2005, IDT) GB

17701-2008 circuit breakers for equipment (IEC 60934:2007, IDT) GB/T 17799.1-1999 Electromagnetic compatibility - Generic standards - residential, commercial and light industrial environment immunity test (IEC 61000-6-1:1997, IDT) GB/T 17799.2-2003 Electromagnetic compatibility - Generic standards - Immunity for industrial environments (IEC 61000-6-2:1999, IDT) GB 17799.3-2001 Electromagnetic compatibility - Generic standards for residential, commercial and light industrial environments Emission standard (IEC 61000-6-3:1996, IDT) GB 17799.4-2001 Electromagnetic compatibility - Generic standards Emission standard for industrial environments (IEC 61000-6-4:1997, IDT) GB/T 18422-2001 Rubber and plastics hoses and hose assemblies - Determination of gas permeability (ISO 4080:1991, EQV) Functional safety GB/T 20438.1-2006 electrical/electronic/programmable electronic safety-related systems - Part 1. General requirements (IEC 61508-1:1998, IDT) GB/T 20801 (1-6) Pressure piping code - Industrial piping (ISO 15649:2001, NEQ) Functional safety GB/T 21109.1-2007 process industry Safety Instrumented Systems Part 1. Framework, definitions, system, hardware and software requirements (IEC 61511-1:2003, IDT) Functional safety GB/T 21109.3-2007 process industry Safety Instrumented System - Part 3. determination of the required safety and integrity Rating guide (IEC 61511-3:2003, IDT) GB/T 28164-2011 portable and batteries containing alkaline or other non acid electrolytes sealed batteries and accumulators Battery safety requirements (IEC 62133:2002, IDT) the standard proposed by China Electrical Equipment Industrial Association.

This standard by the national batteries and fuel flow battery Standardization Technical Committee (SAC/TC342) centralized.

This standard was drafted. Electrical Machinery Industry Beijing Technology and Economy Institute, Shenzhen Institute of Standards and Technology, Shanghai Shenli Technology Co., the company, Dalian Institute of Chemical Physics, Nanjing University Innovation Institute Kunshan, Shanghai Pan hydrogen energy technology industry Co., UL the United States and China Certification Co., Ltd., Tsinghua University, Tongji University, a new source Power Co., Ltd., Beijing Science and Technology Co., Ltd. long Antun hydrogen, Wuhan Intepower fuel cells Limited, Wuhan University.

1 Scope

This standard specifies the construction, marking and testing requirements for portable fuel cell power generation system. Such a fuel cell system is removable, stable. The role of portable fuel cell power generation system is to produce electricity.

This standard is intended for use indoors or outdoors, the rated output voltage does not exceed 600V (AC) or 850V (DC) and alternating straight type Flow portable fuel cell power generation system. Dangerous such portable fuel cell power generation system should not be used in a predetermined IEC 60079-0:2007 Position, except in accordance with IEC 60079-0:2007 system to install additional protective measures.

This standard does not apply to cases of portable fuel cell power generation system.

- a) fixedly connected (hardwired) to the distribution system;
- b) fixedly connected to the common fuel delivery system;
- c) of the power supply;
- d) to power road vehicles;
- e) use on airliners.

Hybrid vehicle (vehicle provided by the battery power and energy) of the battery charging fuel cell does not belong to the scope of this standard.

The following fuels and fuel materials within the scope of this standard.

- natural gas;
- Liquefied petroleum gas, such as propane and butane;
- Liquid alcohols such as methanol and ethanol;
- gasoline;
- Diesel;
- kerosene;
- hydrogen;
- In air or an oxygen atmosphere, immersed in an electrolyte (e.g. a salt solution or an aqueous solution of an alkali) metal (e.g., Mg, Al or Zn) or an alloy;
- Hydride.

This standard does not preclude similar fuel or oxidant air source used, provided that their particular setting out the danger by additional requirements.