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Energy internet system - Use case

能源互联网系统 用例

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Foreword

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1. Structure and Drafting Rules of Standardization Documents" drafted. Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents. This document is proposed and managed by China Electricity Council. This document is drafted by: State Grid Corporation of China, Tsinghua University, State Grid Shanghai Energy Internet Research Institute Co., Ltd., China Electric Power Research Institute Research Institute Co., Ltd., State Grid Energy Research Institute Co., Ltd., Beijing Sifang Relay Automation Co., Ltd., Jicheng Energy Co., Ltd., State Grid Electronic Commerce Co., Ltd., Tianjin Kaifa Electric Co., Ltd., State Grid Zhejiang Electric Power Co., Ltd., State Grid Shandong Electric Power Company, State Grid Jiangsu Electric Power Co., Ltd. and Beijing Dongtu Technology Co., Ltd. The main drafters of this document. Xin Baoan, Ma Junhua, Liu Haitao, Kang Chongqing, Liu Jinsong, Shan Baoguo, Lu Yiming, Lu Jun, Wang Lei, Yanxing, Lu Guangxian, Cheng Lin, Wang Bo, Wang Dong, Ren Yanming, Yuan Wenguang, Wang Chuanqi, Chen Lei, Wen Yan, Yuan Dong, Xue Baihua. Energy Internet System Use Cases

1 Scope

GB/Z 41238-2022 is the Chinese national standard on energy internet system - use case, in the field of electrical engineering. The /Z suffix marks it as a guiding technical document: it does not prescribe requirements that can be certified against, but sets out the technique, the method or the state of the art that the standards bodies recommend following. It was issued on 9 March 2022 by the State Administration for Market Regulation; Standardization Administration of China. As a guiding technical document it carries no separate date of entry into force: it applies from publication. Classification: ICS 29.240.01, CCS F10. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document clarifies the basic use cases of the Energy Internet System, specifies the basic principles and representation methods of the use cases, and describes the basic use cases. The physical form and interaction relationship of the use case describe the energy flow, information flow and cash flow of the use case, and give the reference use case diagram. This document applies to the construction and operation of the Energy Internet.

2 Normative references

There are no normative references in this document.

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 energyinternet; EI Taking electric energy as the core, integrating heat, cooling, gas and other energy sources, comprehensively utilizing technologies such as the Internet, and deeply integrating energy systems and information and communication systems It coordinates the production, transmission, distribution, storage, conversion, consumption and transaction of multiple energy sources, and is an open energy system with high efficiency, cleanness, low carbon and safety features. source internet. It is divided into three development stages. domestic interconnection, intracontinental interconnection, and intercontinental interconnection. The regional comprehensive energy supply network formed by the coupling and interconnection of various energy sources, such as cooling, is one of the forms of the energy Internet, and plays the function of "connecting the previous and the next". integrated urban energy supply network. Note

4.The park energy internet (PEI) is a system that includes multiple types of renewable energy, combined cooling, heating and power systems, and electricity/cooling/heating energy storage systems. system, ground source heat pump system, etc. [Source: GB /Z 41237-2022, 3.1.1]

3.2 microenergygrid; MEG One of the forms of the energy Internet is the energy Internet built in a relatively small area with clear boundaries, which can operate independently. Yes, it can also be interconnected. [Source: GB /Z 41237-2022, 3.1.2]

3.3 Electric vehicle and grid synergy The electric vehicle interacts with the power grid in both directions, the grid supplements the electric energy for the electric vehicle, and the electric vehicle acts as an energy storage unit to realize peak shaving and valley filling.