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**Energy interconnection system-Interaction between smart grid
and heat, gas, water and transportation systems**

能源互联网系统 智能电网与热、气、水、交通系统的交互

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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

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1 Scope

This document specifies the energy interaction, information interaction, and business interaction between smart grid and heat, gas, water, and transportation systems in the energy Internet system. requirements.

This document applies to the planning and construction of the interaction between smart grids and heat, gas, water and transportation systems within the park energy internet and regional energy internet. Equipment and operation.

2 Normative references

GB/T 1402

GB/T 9237

GB/T 15316

GB/T 17166

GB/T 18657.5

GB 19576

GB 19577

GB 24500

GB/T 24915

GB/T 25070

GB/T 28583

GB/T 29328

GB/T 29781

GB 30721

GB/T 33589

GB/T 33593

GB/T 33607

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GB/T 34060

GB/T 35554

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