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**Intelligrid methodology for developing requirements for energy
systems**

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Foreword

This instructional document has been drafted in accordance with the rules given in GB/T 1.1-2009.

This guidance document uses the translation method equivalent to the smart grid using IEC /PAS62559.2008 "Energy System Requirements Development method".

The following editorial changes have been made to this technical document.

Replace "thisPubliclyAvailableSpecification" or "PAS" in the original text with "this Guidance Document";

Chapter 3, "Abbreviations," adds the explanations of some abbreviations appearing in this guidance document to facilitate the guidance of this guideline

User of the file

Chapter 4 "Terms and Definitions" adds the terms appearing in this technical document to guide the use.

Please note that some of this document may be patentable. The issuing agencies of this document do not bear the responsibility of identifying these patents.

This Guidance Document is proposed and managed by the National Technical Committee for Voltage and Current Leveling and Frequency Standardization (SAC/TC1).

The main drafting of the technical guidance of this document. China Electric Power Research Institute, China Machine Productivity Promotion Center, Hebei Electric Power Research Institute,

Wuhan National Measurement Technology Co., Ltd., Shanxi Electric Power Company Electric Power Research Institute, Xi'an Boyu Electric Co., Ltd., Rongxin Power Electronics Co., Ltd., State Power Nanjing Automation Co., Ltd., State Grid Electric Power Research Institute, Anhui University, Ministry of Education Power Quality Engineering Research

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1.1 Scope

This Guidance Document specifies a set of smart grid system engineering methods that describe and define user requirements.

This guideline applies to the process of determining user functionality and performance requirements in project or system development.

This Guidance Document (PAS) is based on the business needs of a utility company, and is an expert in the power system field in an automation system

Identify and describe a set of methods for user needs development. This approach was originally developed by the United States Electric Power Research Institute (EPRI) as a smart grid system

Research and development part of the structure, is to achieve future automatic, self-healing and efficient power system.

This chapter describes the scope, purpose and objectives of this guidance document and the basic system on which it is based.

1.2.1 The concept of systems engineering

Smart grid methodology is a branch of systems engineering. Systems Engineering Methodology Separation of "User Requirements" from "Technical Specifications"

User requirements only determine what is needed, but do not refer to any particular design or technology, and technical specifications determine how "how" is implemented

Motion control system to meet user needs.

1.2.2 Smart Grid Methodology

The overall framework of smart grid methodology is shown in Figure 1 and consists mainly of the following personnel and project steps.

The person in charge of business examines and approves the project according to the necessity and needs of the project.

Field experts and project engineers to form a project team As the team's first task, should identify the project may be affected or subject to

All power system specialists and other stakeholders (users) affected by the project, who or their representatives should (full-time, part-time or as far as possible) participate

Project Team.

Field experts review the concepts and applicability of existing smart grid use cases, which can be found on the Internet at.

http://inteligrid.info/inteligridArchitecture/ues_cases/IEC_SA_use_cases_overview.htm

Domain experts develop a list of use cases (functional descriptions) that considers not only the needs of a particular business, but also the needs of other users,

And the likelihood that the project will affect or be affected in the future.

Domain experts drafted key use cases with the help of project engineers who understand the use-case process, including all necessary user needs.

Domain experts review and update these use cases to ensure that users' needs are properly understood, avoiding possible misunderstandings,

Complex, missing and contradictory.

The project engineer evaluates and adjusts these use cases to create a comprehensive and detailed document that contains only the user's needs.

According to user requirements documents, information professionals decide which appropriate standards and techniques to use in determining key criteria and techniques should be

Preparation of smart grid system strategic vision.

Design engineers to develop technical specifications to user needs, information experts to determine the strategic standards and technologies and smart grid system development

The combination of technical means.

The details that are eventually described in the user requirements document are included.

Function. refers to the function from the user's point of view, including the function description of the process, user options, the type of input data, the type of result

As well as the possible appearance of the interface;