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Interested committees:

Title: Draft BS EN IEC 63189-1 Virtual Power Plants. Part 1: Architecture and Functional Requirements.

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



8B/62/CD

COMMITTEE DRAFT (CD)

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IEC SC 8B : DECENTRALIZED ELECTRICAL ENERGY SYSTEMS	
SECRETARIAT: China	SECRETARY: Mr Wenpeng LUAN
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Virtual Power Plants- Part 1: Architecture and Functional Requirements

NOTE FROM TC/SC OFFICERS:

This draft is developed based on the latest meeting discussion, held on June 3rd, 2020.

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VIRTUAL POWER PLANTS –

Part 1: Architecture and functional requirements

1. Scope

This standard covers the terms and definitions, system composition and control modes of virtual power plants (VPPs). It defines the functional requirements for VPPs, including, power generation forecasting, load forecasting, generation and consumption scheduling, control and management of energy storage devices and loads, coordinated optimization of distributed energy resources, status monitoring and communication, data collection and analysis, and market transactions.

Local regulations can have an impact on the control and management of loads.

This document applies to VPPs consisting of distributed energy resources and loads. It specifies the design and development of VPPs.

2. Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61850 (all parts) *Communication networks and systems for power utility automation*

IEC 60870-5-101 *Telecontrol equipment and systems - Part 5-101: Transmission protocols – Companion standard for basic telecontrol tasks*

IEC 60870-5-104 *Telecontrol equipment and systems - Part 5-104: Transmission protocols – Network access for IEC 60870-5-101 using standard transport profiles*

3. Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1**virtual power plant****VPP**

a party or system that realizes aggregation, optimization and control of decentralized generations, energy storage devices and controllable loads, which are not necessarily within the same geographical area, and facilitate the activities in power system operations and electricity market

3.2**distributed energy resources****DER**

generators (with their auxiliaries, protection and connection equipment), including loads having a generating mode (such as electrical energy storage systems), connected to a low-voltage or a medium-voltage network

[Source: IEC 617-04-20]

3.3**distributed generation****DG**

generation of electric energy by multiple sources which are connected to the power distribution system

[Source: IEC 617-04-09]

3.4**energy storage system****EES**

an energy storage system can store and release electric energy within limited period of time. The electric energy can be stored in the form of mechanical, chemical, electromagnetic energy and phase transition

3.5**controllable load**

the load of particular consumers which under contract must be increased or reduced, for a limited period of time, at the request of the distribution supply undertaking

Note 1 to entry: controllable load can be increased as well as reduced, according to the request of the distribution supply undertaking

[Source: IEC 603-04-42, MOD]

3.6**demand side management****DSM**

process that is intended to influence the quantity or patterns of use of electric energy consumed by end-use customers

[Source: IEC 617-04-15]

3.7**demand response****DR**

action resulting from management of the electricity demand in response to supply conditions