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BSI Standards Publication

Wind energy generation systems

Part 25-71: Communications for monitoring and control of wind power plants — Configuration description language

bsi.

National foreword

This Published Document is the UK implementation of IEC TS 61400-25-71:2019.

The UK participation in its preparation was entrusted to Technical Committee PEL/88, Wind turbines.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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FOREWORD

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Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

Technical Specification IEC 61400-25-71 has been prepared by IEC technical committees TC 88: Wind energy generation systems and TC 57: Power systems management and associated information exchange.

The text of this Technical Specification is based on the following documents:

Draft TS	Report on voting
88/706/DTS	88/715A/RVDTS

Full information on the voting for the approval of this Technical Specification can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61400 series, published under the general title *Wind energy generation systems*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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WIND ENERGY GENERATION SYSTEMS –

Part 25-71: Communications for monitoring and control of wind power plants – Configuration description language

1 Scope

The focus of the IEC 61400-25 series is on the communications between wind power plant components such as wind turbines and actors such as SCADA systems. Non-IEC 61850/IEC 61400-25 internal communication within wind power plant components is outside the normative scope of the IEC 61400-25 series.

This document describes how to extend the IEC 61400-25 series with the IEC 61850-6 Substation Configuration description Language (SCL) file format for describing communication-related Intelligent Electronic Device (IED) configurations of a wind turbine, wind power plant controller, meteorological mast, etc. The extension of SCL to the wind domain is intended to simplify integration of wind power plant equipment for clients, as well as their integration to the electrical system. The adoption of SCL allows formalised tool-based exchange of IED parameters, communication system configurations, switch yard (function) structures, as well as description of the relations between them.

The purpose of this format is to formally and efficiently exchange wind turbine and wind power plant IED capability descriptions, and system descriptions between IED engineering tools and the system engineering tool(s) of different manufacturers in a compatible way. The file format is also intended to provide report configuration and alarms as well as HMI interface information from a wind power plant. This information can be used to engineer overlying SCADA systems for the site, for connected DSO, or TSO, or for fleet operators' maintenance and surveillance systems. Finally, the SCL is intended as a documentation of the configuration and topology of the delivered system.

The System Configuration description Language (SCL) is defined in IEC 61850-6, which in turn is based on Extensible Markup Language (XML) version 1.0. Extensions to the IED and communication system model in SCL to cover IEC 61400-25-2 are included in this document. Also Specific Communication Service Mapping (SCSM) extensions or usage rules to cover all mappings defined in IEC 61400-25-4 and IEC 61400-25-41[1] are included in this document.

This document does not specify individual implementations or products using the SCL language, nor does it constrain the implementation of entities and interfaces within a computer system. Further this document does not intend to specify the download format of configuration data to an IED, although the SCL format could be used as part of the configuration data.

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.

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1 Under consideration.