



57/760/NP

NEW WORK ITEM PROPOSAL

Classification according to IEC Directives Supplement, Table 1

Proposer CH NC Secretariat	Date of proposal April 26, 2005
TC/SC TC 57	Secretariat Germany
Date of circulation 2005-06-17	Closing date for voting 2005-09-23

A proposal for a new work item within the scope of an existing technical committee or subcommittee shall be submitted to the Central Office. The proposal will be distributed to the P-members of the technical committee or subcommittee for voting, and to the O-members for information. The proposer may be a National Committee of the IEC, the secretariat itself, another technical committee or subcommittee, an organization in liaison, the Committee of Action or one of the advisory committees, or the General Secretary. Guidelines for proposing and justifying a new work item are given in ISO/IEC Directives, Part 1, Annex C (see extract overleaf). **This form is not to be used for amendments or revisions to existing publications.**

The proposal (to be completed by the proposer)

Title of proposal Use of IEC 61850 for the communication between control centers and substations		
<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Technical Specification	
<p>Scope (as defined in ISO/IEC Directives, Part 2, 6.2.1) The scope of the proposed work is, to define a specification for the use of IEC 61850 for the communication between control centers and substations. The specification will refer to IEC 61850 and make extensions where required. In addition, the exchange of configuration information between SCL (Substation configuration language) and CIM (Common Information Model) shall be described as well.</p>		
<p>Purpose and justification, including the market relevance and relationship to Safety (Guide 104), EMC (Guide 107), Environmental aspects (Guide 109) and Quality assurance (Guide 102) . (attach a separate page as annex, if necessary) Now that IEC 61850 is published, the first substations using IEC 61850 technologies are built. The concepts of IEC 61850 are further used in applications outside of the substation like distributed energy resources, hydro power plants and wind power plants. Therefore, IEC 61850 is on the way, to become the foundation for a globally standardized utility communication network.</p> <p>The introduction of object models and the configuration language by IEC 61850 provides new possibilities in the management of the automation system. A direct and seamless access from the control center to the IEDs of the substation automation system would allow a more efficient data management of the overall control system.</p> <p>Although the possible use of IEC 61850 for the communication between substations and control systems is mentioned in the TC57 reference architecture document (IEC 62375), there is no specification how exactly it shall be used. The issue was evaluated in 2002 by a task force. The conclusion was, that IEC 61850 is suitable, but may eventually require the following extensions:</p> <ul style="list-style-type: none"> • A new mapping of the communication services on a protocol suitable for wide area communication • Extensions of the data model to provide a control center view of the substation <p>A further important user benefit is the possibility to enter any configuration information only once. Currently, configuration information is available in the SCL for the substation and in the CIM for the control center. The models have been harmonized, so that an automatic transfer of the information from one model to the other should be possible. In the new work, it shall be described, how that configuration information can be transferred between CIM and SCL.</p>		
Target date	for first CD 2006-12	for IS 2008-10
Estimated number of meetings	Frequency of meetings per year	Date and place of first meeting:

Proposed working methods	<input checked="" type="checkbox"/> E-mail	<input checked="" type="checkbox"/> ftp
Relevant documents to be considered		
Relationship of project to activities of other international bodies		
Liaison organizations	Need for coordination within ISO or IEC TC 57 SPAG, IEC TC 8	
Preparatory work Ensure that all copyright issues are identified. Check one of the two following boxes <input type="checkbox"/> A draft is attached for vote and comment <input checked="" type="checkbox"/> An outline is attached We nominate a prot leader as follows in accordance with ISO/IEC Directives, Part 1, 2.3.4 (name, address, fax and e-mail): Christoph Brunner , ABB Schweiz AG UTA-BT, Bruggerstrasse 72 CH 5401 Baden Switzerland Tel:+41 58 588 19 32, Email: christoph.brunner@ch.abb.com		
Concerns known patented items (see ISO/IEC Directives, Part 2) <input type="checkbox"/> yes <input type="checkbox"/> no If yes, provide full information as an annex		Name and/or signature of the proposer CH NC Secretariat (W. Tanner)
Comments and recommendations from the TC/SC officers corresponding Sector Board		
1) Work allocation <input type="checkbox"/> Project team <input type="checkbox"/> New working group <input checked="" type="checkbox"/> Existing working group no: 10		
2) Draft suitable for direct submission as <input type="checkbox"/> CD <input type="checkbox"/> CDV		
3) General quality of the draft (conformity to ISO/IEC Directives, Part 2) <input type="checkbox"/> Little redrafting needed <input type="checkbox"/> Substantial redrafting needed <input type="checkbox"/> no draft (outline only)		
4) Relationship with other activities In IEC In other organizations		
Other remarks		
Remarks from the TC/SC officers The TC 57 secretary and chairman support this proposal, which is in line with the TC 57 strategy.		
Remarks from the Sector Board		

Elements to be clarified when proposing a new work item

Title

Indicate the subject matter of the proposed new standard.

Indicate whether it is intended to prepare a standard, a technical report or an amendment to an existing standard.

Scope

Give a clear indication of the coverage of the proposed new work item and, if necessary for clarity, exclusions.

Indicate whether the subject proposed relates to one or more of the fields of safety, EMC, the environment or quality assurance.

Purpose and justification

Give details based on a critical study of the following elements wherever practicable.

- The specific aims and reason for the standardization activity, with particular emphasis on the aspects of standardization to be covered, the problems it is expected to solve or the difficulties it is intended to overcome.
- The main interests that might benefit from or be affected by the activity, such as industry, consumers, trade, governments, distributors.
- Feasibility of the activity: Are there factors that could hinder the successful establishment or general application of the standard?

- d) Timeliness of the standard to be produced: Is the technology reasonably stabilized? If not, how much time is likely to be available before advances in technology may render the proposed standard outdated? Is the proposed standard required as a basis for the future development of the technology in question?
- e) Urgency of the activity, considering the needs of the market (industry, consumers, trade, governments etc.) as well as other fields or organizations. Indicate target date and, when a series of standards is proposed, suggest priorities.
- f) The benefits to be gained by the implementation of the proposed standard; alternatively, the loss or disadvantage(s) if no standard is established within a reasonable time. Data such as product volume or value of trade should be included and quantified.
- g) If the standardization activity is, or is likely to be, the subject of regulations or to require the harmonization of existing regulations, this should be indicated.

If a series of new work items is proposed, the purpose and justification of which is common, a common proposal may be drafted including all elements to be clarified and enumerating the titles and scopes of each individual item.

Relevant documents

List any known relevant documents (such as standards and regulations), regardless of their source. When the proposer considers that an existing well-established document may be acceptable as a standard (with or without amendments), indicate this with appropriate justification and attach a copy to the proposal.

Cooperation and liaison

List relevant organizations or bodies with which cooperation and liaison should exist.

Preparatory work

Indicate the name of the project leader nominated by the proposer.

Communication between Control centres and substations based on IEC 61850*Outline*

General requirements

- Environmental conditions

System and project management

- Engineering requirements / configuration of control centres based on SCL
- System and lifecycle
- Quality assurance

Communication requirements

- Functions
- Message performance requirements
- Requirements for data integrity
- Additional requirements for the data model

Extensions of the data model

Mapping