



# International Conference IEC 61850 – The Future of Substation Protection and Automation

**March 29 and 30, 2005  
FURNAS – Rio de Janeiro**

## The Conference

The IEC 61850 Standard establishes innovations in the concepts for automation and protection of substations and power plants, imposing important consequences on design, specification, tests, manufacturing, operation and maintenance of the new installations. An example is the establishment of data models for the main components of a substation or power plant, according to the associated services and functions, aiming to achieve:

- Larger design flexibility, including some freedom to allocate the distinct functionalities among the devices that integrate the automation and protection systems;
- Interoperability among intelligent devices from distinct manufacturers.

The conference will be held by the Brazilian-CIGRÉ Study Committee B5 – Protection and Automation. It intends to explain and discuss technically the consequences of the IEC 61850 Standard on substation automation and communication, so the attendants may get up-to-dated about the new concepts, getting acquainted to the newest developments and products, in order to understand all the aspects of the future implementations. The relevance of the subject stems from the expected impacts of IEC 61850 on substations and power plants protection and automation.

The board will be chaired by **Mr. Ivan de Mesmaeker (CH)**, Chairman of the CIGRÉ Study Committee B5 – Protection and Automation.

## The location

**The conference will take place at the FURNAS Auditorium, Rua Real Grandeza, 219, Rio de Janeiro, RJ, Brazil.**

FURNAS Centrais Elétricas S/A is one of the largest generation and transmission utilities in Brazil.



## The audience

Besides the presence of engineers and technicians specialized on protection and automation, the Conference will also be attended by:

- Managers responsible for protection and automation;
- Personnel from generation, transmission and distribution utilities;
- System integrators and SCADA specialists;
- Specialists on power system operation;
- Protection and automation maintenance specialists;
- Consulting and research personnel.

## Organization

The conference will be organized by the Brazilian-CIGRÉ Study Committee B5 – Protection and Automation. The event will be supported by the International SC B5 and FURNAS Centrais Elétricas S.A.

All the great manufacturers will contribute to the conference with their most renowned specialists as invited speakers.

The subject – IEC 61850 Standard – is perfectly suited to the SC B5 scope, which covers principles, design, applications, coordination, performance and asset management of:

- System protection;
- Substation control and automation;
- Remote control systems and equipment;
- Metering systems and equipment.

All technical, organizational and economical aspects are considered by SC B5, including staff education and training. Emphasis is placed on design and application of digital technology and modern integrated system approach including hardware and software for the acquisition of system state information, local and remote data communication, and execution of control commands.

## Program

The presentations of the invited speakers will be in English. No simultaneous translation will be available. The debates will also be held in the same idiom, but if the audience prefers, questions will be allowed in Portuguese, so the Board will be responsible for the translation. The invited speakers will answer in English.



## The IEC 61850 Standard and the SC B5

The technical opening of the Conference will be the responsibility of the Chairman of the Study Committee B5, Mr. Ivan de Mesmaeker, who will address the IEC 61850 Standard in its various aspects, from motivation, technical basis, promises and expectations to the expected impacts in the protection and automation of installations, all from the point of view of the scope of activities of SC B5.

## Tutorial on IEC 61850 Standard

On March 29 morning a brief conceptual presentation will be held by **Dr. Klaus-Peter Brand (CH)**, who played an active role linking CIGRÉ SC B5 to IEC TC57.

Some of the subjects that will be addressed are as following:

- General concepts and definitions;
- Data modeling;
- Information models;
- Configuration language.

## WG B5.11 – The introduction of IEC 61850 & its Impact on Protection and Automation within Substations

**Mr. Fernando Cobelo (SP)**, Convener of Working Group B5.11, will present how the WG is handling its subject within CIGRÉ, addressing the following issues:

- Motivation for the WG creation;
- WG scope;
- WG present status;
- Description of the topics covered by the WG report.

## Workshops

The conference core will consist of two workshops that will be held on March 29 afternoon and on March 30 morning. Both workshops will be chaired by **Mr. Ivan de Mesmaeker (CH)**, Chairman of CIGRÉ SC B5, with the participation of invited specialists from organizations that contributed on IEC TC57.

Each workshop will address three subjects according to the interpretation of three invited specialists, who will hold individual presentations of 40 minutes each, followed by 20 min for discussions with the floor. At the end of the session there will be 30 minutes for debates among the invited speakers and the audience.

The themes for these workshops will be:



### **Subject A: CONCEPTS**

- Impacts on protection and automation devices:
  - needs for new devices?, data models, change in naming
- Impacts on system architecture and tools:
  - which architecture will be used? requirements to tools
- Interoperability and conformity tests:
  - which tests? what has been done? what should be done?

### **Subject B: IMPLEMENTATION**

- Specification
- Migration to IEC 61850
- Implementation experiences worldwide

## **Manufacturers' Forum**

On March 30 afternoon the manufacturers will be invited to present their most up-to-date news on research, development and products related to IEC 61850.



## DETAILED PROGRAM

Tuesday – March 29, 2005		
09:00 to 09:15	Opening	
09:15 to 10:00	IEC 61850 Standard and the Cigré Study Committee B5	Mr. Ivan De Mesmaeker
10:00 to 10:15	COFFEE BREAK	
10:15 to 11:15	Tutorial on IEC 61850	Dr. Klaus-Peter Brand
11:15 to 12:00	The introduction of IEC 61850 & its impact on Protection and Automation	Mr. Fernando Cobelo
12:00 to 13:30	LUNCH BREAK	
<b>WORKSHOP 1</b>		
13:30 to 14:30	Impacts on protection and automation devices	Mr. Clemens Hoga
14:30 to 15:30	Impacts on system architecture and tools	Mr. Luc Hossenlopp
15:30 to 15:45	COFFEE BREAK	
15:45 to 16:45	Process bus and applications	Mr. Mark Adamiak
16:45 to 17:15	Debates	
Wednesday - March 30, 2005		
<b>WORKSHOP 2</b>		
09:00 to 10:00	Specification	Dr. Klaus-Peter Brand
10:00 to 10:15	COFFEE BREAK	
10:15 to 11:15	Migration to 61850, conformity tests and interoperability	Mr. Ralph Mackiewicz
11:15 to 12:15	Implementation experiences worldwide	Mr. Fernando Cobelo
12:15 to 12:30	Debates	
12:30 to 14:00	LUNCH BREAK	
<b>MANUFACTURERS' FORUM</b>		
14:00 to 14:25	<b>ABB</b>	
14:25 to 14:50	<b>AREVA</b>	
14:50 to 15:15	<b>GE</b>	
15:15 to 15:30	COFFEE BREAK	
15:30 to 15:55	<b>SIEMENS</b>	
15:55 to 16:20	<b>SISCO</b>	
16:20 to 16:45	<b>ZIV</b>	
16:45 to 17:00	ADJOURNMENT	



## **FEES**

CIGRÉ Individual Affiliated: R\$ 350,09  
Non Affiliated: R\$ 500,09

Foreigners are allowed to pay the respective fees at the conference itself.

## **General Information**

### **Conference Coordinator**

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## Application Data

<b>Full Name:</b>	
<b>Name for Identification:</b>	
<b>Company:</b>	
<b>Function:</b>	
<b>Address:</b>	
<b>City:</b>	
<b>State:</b>	
<b>Zip Code:</b>	
<b>Phone Number:</b>	
<b>Fax Number:</b>	
<b>E-mail:</b>	

CIGRÉ Affiliation:

- Individual
- Collective
- Non Affiliated
- Invited Speaker