CIGRE SC B5
Protection & Automation

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CIGRE Distinguished Member
Chairman of Study Committee B5
Protection and Automation
CIGRÉ Mission

- International Council on Large Electric Systems
- Permanent non-governmental & non-profit association

Cigré

Mission

- To be the world’s foremost collaborative technical reference organization for all aspects of electric power systems
CIGRÉ Strategic Directions

- The Electrical Power System of the Future
- People and Skills of the future
- Competent Structure and Functions
- Key Information to Executives and Engineers
Principles, design, application and management of power system

- Protection, substation control, automation, monitoring, recording & metering
- PACS & related internal/external communications & interfacing for remote control & monitoring
Task Force

- **Functional Requirements** (BR)

### Study Committee B5 Working Groups

#### Substation Automation
- **42 - Availability and Reliability** - M. Petrini (IT)
- **50 - IEC 61850 Expectations** from Users - H. Grégory (BE)
- **53 - Testing of digital IEC 61850 Substations** - A. Apostolov (US)
- **B4/B5-59 - Control & Protection of HVDC** – K. Koreman (NL)

#### Protection & Monitoring
- **57 - New challenges for Frequency Protection** - D. McDonnell (IE)
- **24 – Transient in Digital V & I Acquisition** - Z. Zakonjsek (RU)
- **58 – Faster Protection/Network Automation** – A. Podshivalin (RU)
- **47 - Protection Performance Audits** - P. Watson (GB)
- **48 - Protection with Limited Fault Current** - B. Su (CN)
- **49 - Protection of Shunt Capacitors** - O. Casanova (CA)
- **47 - Protection Performance Audits** - P. Watson (GB)
- **52 - Analysis of Fault Locator Systems** – S. Sefidpour (SE)
- **C4/B5-41 - Sub-synchronous resonance** - L. Haarla (FI)

#### New Network Requirements
- **41 – Metering** for Billing Purposes - R. Adams (GB)
- **55 - Application of Travelling Waves** - P. Crossley (GB)
- **51 – Application of SAS Remotely Accessed Information** – L. Li (CN)
- **54 – PAC Issues of Islanding Restor./Black Start** - N. Nair (NZ)
- **56 – Optimization of PAC Systems** – P. Kreutzer (CH)
- **59 – Requirements for Near-Process IED** – X. Lei (CN)

#### New Working Groups
- **Testing PMU & Synchrophasors** (US)
- **Impact of Low Inertia Networks** (UK)
- **PACS Asset Management** (IT)

**Architectures With Functionality Independent of Hardware** - (RU)
Current Issues in Protection and Automation

- Interoperability & Intelligent Software Tools
- Logic Modeling Specification & Implementation
- Functional Requirements and Testing
- Planning and Testing Wide-Area Systems
- Distributed Energy Resources
- Cybersecurity of the Electrical Network

Current Issues in Protection & Automation
SC B5 Future Colloquia and Discussion Sessions

New Zealand 2017 – Preferential Subjects

- **PS1** - Challenges of *design and maintenance* of IEC 61850 based systems
- **PS2** - Protection issues in modern power systems with *renewable generation and storage*
- **PS3** - The Impact on Protection and Control from *Working Existing Assets Harder*

France 2018 – Preferential Subjects

- **PS1** – Protection under *System Emergency* Conditions
- **PS2** - User experience and current practice with IEC 61850 *Process Bus*
Thanks

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