

Report to the CIGRE Australian Technical Council

Study Committee SC B5 and Australian Panel AU B5 Activities

Convenor CIGRE AU B5: Rob Coggan

AU B5 Report 2025

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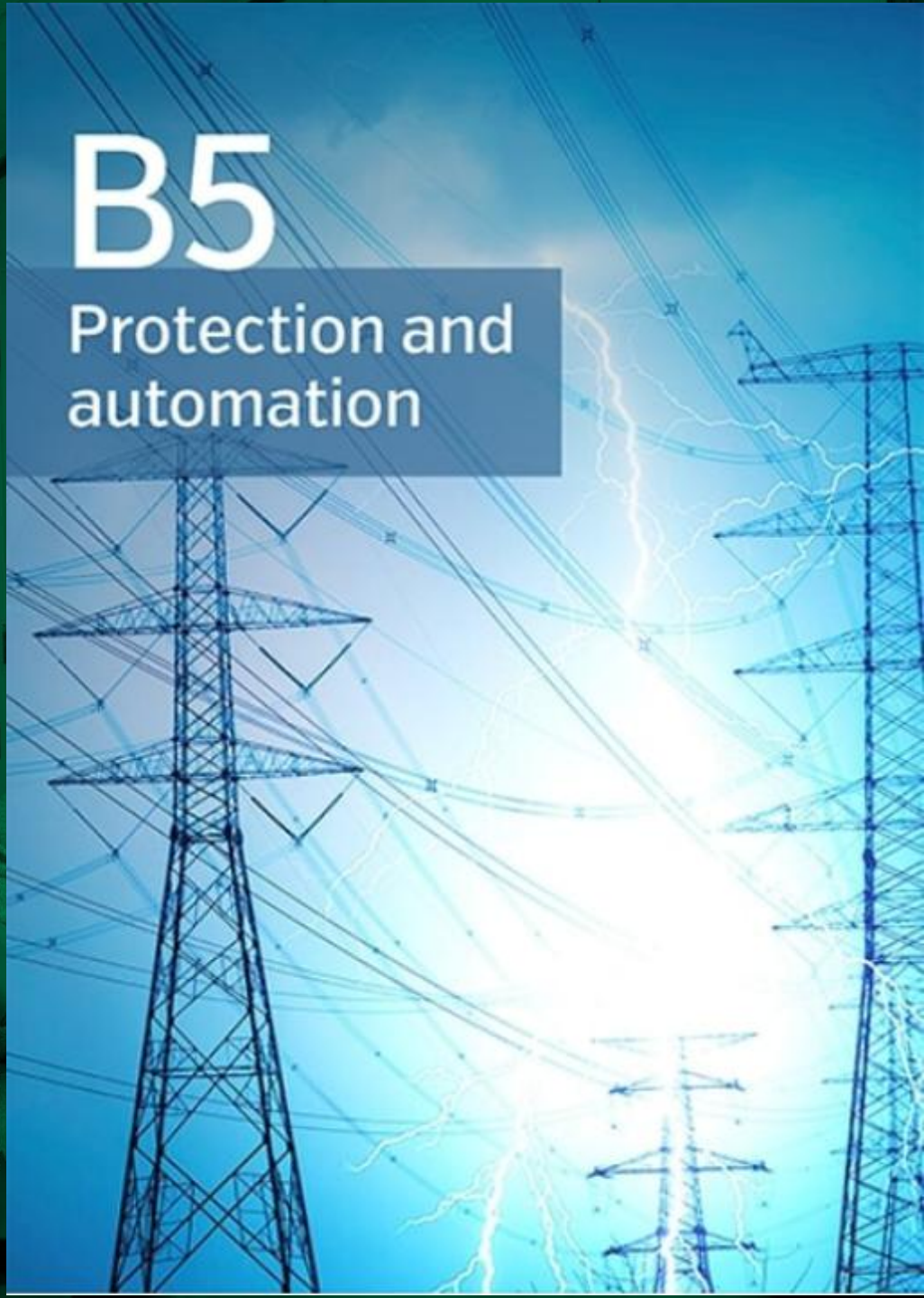


cigre

For power system expertise

B5

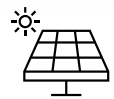
Protection and
automation



B5 Protection and Automation

Our Mission

To facilitate and promote advancements in engineering, exchange of information, and expansion of knowledge in the field of protection and automation, focused on protection, control, monitoring, metering and fault locating, and aims to cover the whole power system, from transmission, to distribution systems, including generation.



Functional integration and virtualisation of protection systems and substation automation systems



Exploring and evaluating emerging technology for protection, automation, and control across power system



New network Requirements covering the design and application of digital technology using modern communication systems



System-wide protection and control schemes

New B5 Working Groups

B5.87	Digital Transformation of Protection, automation and Control Systems: Expanding the Application of IEC61850
B5.88	Implementation Guide for fully digital IEC 61850-based Protection , Automation and Control Systems
B5.89	Protection Redundancy and Backup for Modern Power Systems



NEW FOCUS AREAS:



Methods to improve deployment of IEC 61850 based substations

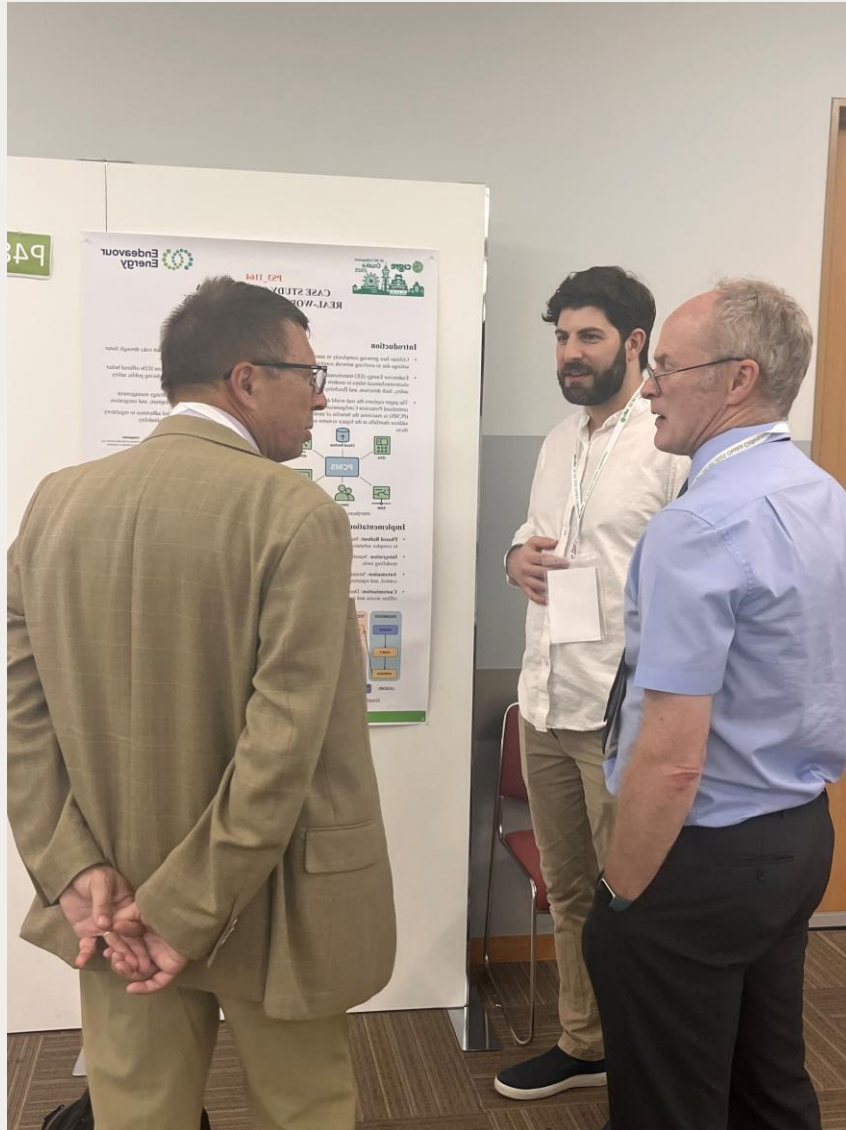


Tools, data management and communication



Exploring backup protection challenges in modern networks





Osaka Colloquium

30 June – 6 July 2025

Highlights

- **B5 Focus**
- **Papers:** 48 papers across 3 thematic groups
- **Delegates:** 200+

Themes

- IEC 61850 based Interoperability of IEDs of different manufacturers and technologies integrated in one PACS
- PACS Life Cycle Performance and Longevity
- Sharing of best practices on revised principles enabled by modern protection IEDs

Key Issues for AU B5

Cyber Security

- Increasing need to use networked equipment (over wide areas)
- Complexity of security systems increases complexity of design

Wide Area Systems

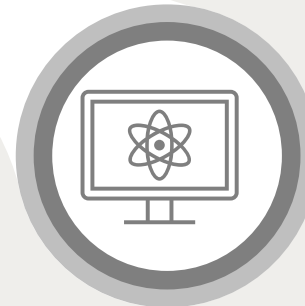
- Growing needs
- Can 'unlock' capacity but increase does not come without risks

Modelling

- Gaps in standards and testing
- Protection of systems where generation sources predominately based on configuration and coding

Fully digital substations

- Tools and processes
- Documentation and training
- Centralisation, Virtualisation and what skills will need to be acquired



3-4 September 2025

Highlights

- **B5 Presentations:** 35 presentations across 2 days
- **Themes:** Complex Protection design and analysis, managing IED fleets, protection operations and analysis
- **Delegates:** 800 participants

Key Messages

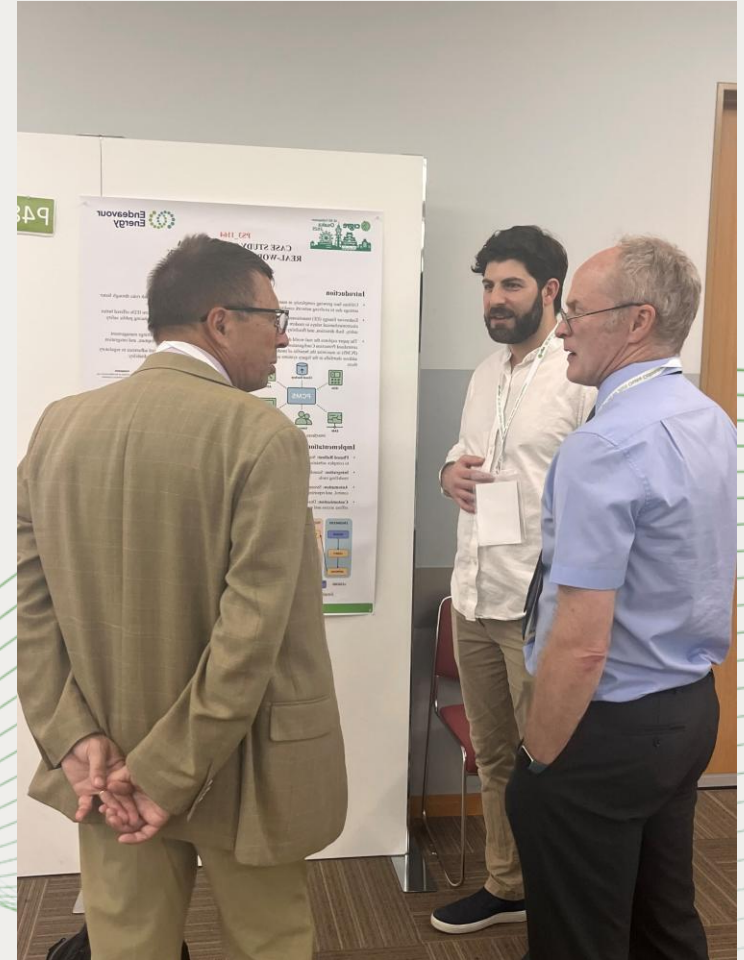
- Digital systems are fast becoming the norm and we need to take advantage of them
- Centralisation and Virtualisation are growing areas of interest and opportunity
- With the changing technologies some of the fundamental challenges are still present and require focus



AU B5 Highlights



AU B5 Panel Meeting in Adelaide



Tarik presenting his poster to Volker and Peter in OSAKA

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